FEBRUARY 1957

PRINTING EQUIPMENT Engineer

Web Offset Color Test Run for Newspaper (SEE PAGE 5)

Automated Type Composition Equipment

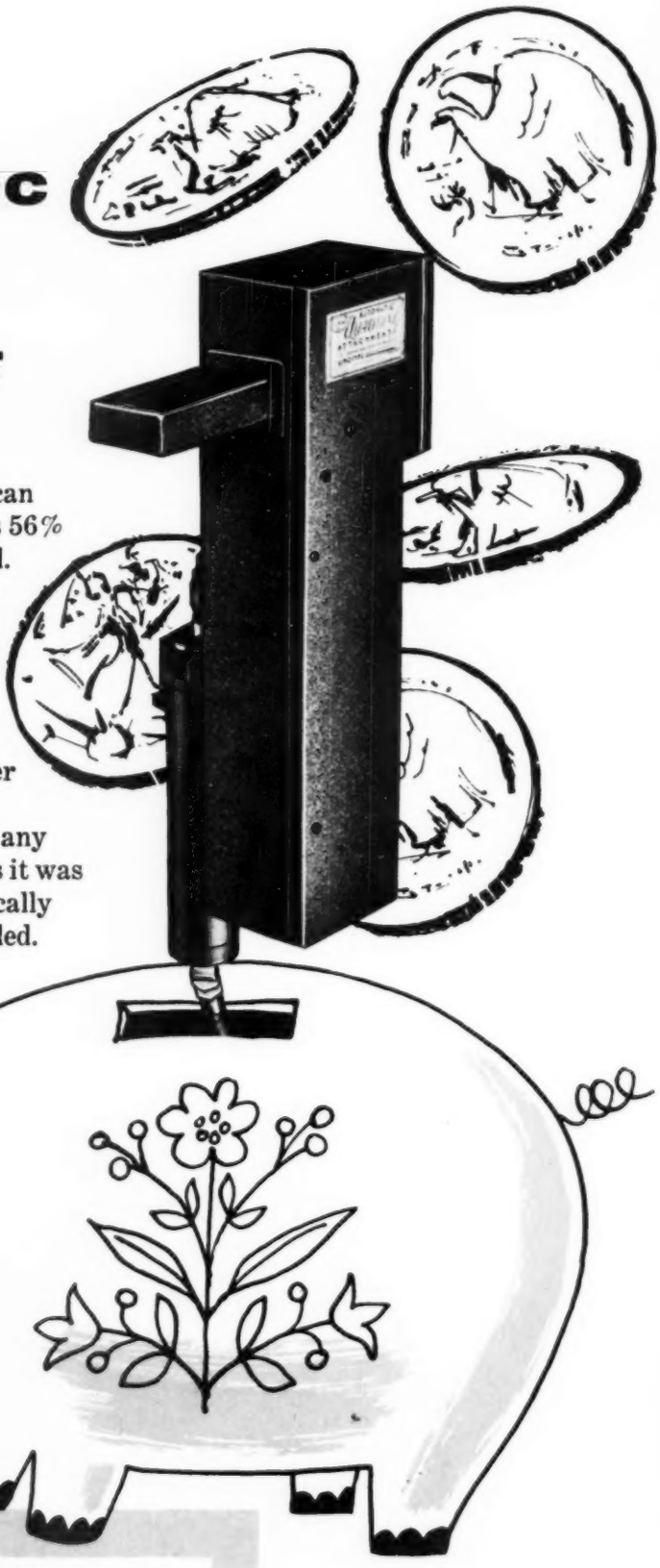
Automatic Press Web Controls

Great Lakes Mechanical Conference

Please Pass On To:

THE INDUSTRY-WIDE TECHNICAL PUBLICATION

INSTALLING A STAR SELECTRO-MATIC QUADDER IS AN INVESTMENT



Investing in a Star Selectro-Matic Quadder can increase "white space" production as much as 56% . . . without additional floor space or overhead. Savings in the average plant will pay for the Selectro-Matic Quadder in about one year. After that, years of increased production will make the Star Quadder one of the best time and money-savers in the composing room.

Your investment in the Star Quadder is never lost when you change linecasting machines, because the Star Quadder can be re-applied to any other 30 pica Linotype or Intertype as easily as it was originally installed. It is quickly and economically adapted to Teletypesetter operation when needed.

Why not look into the Star Selectro-Matic Quadder for your shop? Start now, by writing for descriptive, illustrated 8-page brochure today.

Precision TRADE ★ MARK Parts

STAR PARTS, Inc.
SOUTH HACKENSACK, N. J.
BRANCH: 1327 BROADWAY, KANSAS CITY, MO.
AGENCIES: CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • SO. ACTON, MASS.
CANADA: SEARS LTD. AND AGENTS OVERSEAS

is your printing "on the level"?

. . . You can achieve the closest possible thing to perfect printing only if your plates are accurately "machined" to provide a uniform impression surface.

For more than 20 years, discerning newspaper and magazine publishers, commercial printers, electrotypers have come to rely on the Sta-Hi Premier Rotary Shaver for precision shaving of flat stereotypes, electrotypes, zincs, plastics, wood and metal base.

And now an *improved* model of the Premier is available, offering these bonus features:

STREAMLINED DESIGN . . . for easier operation and maintenance.

MORE POWER . . . with separate motors operating the rotary cutter, hydraulic bed feed and chip disposal system.

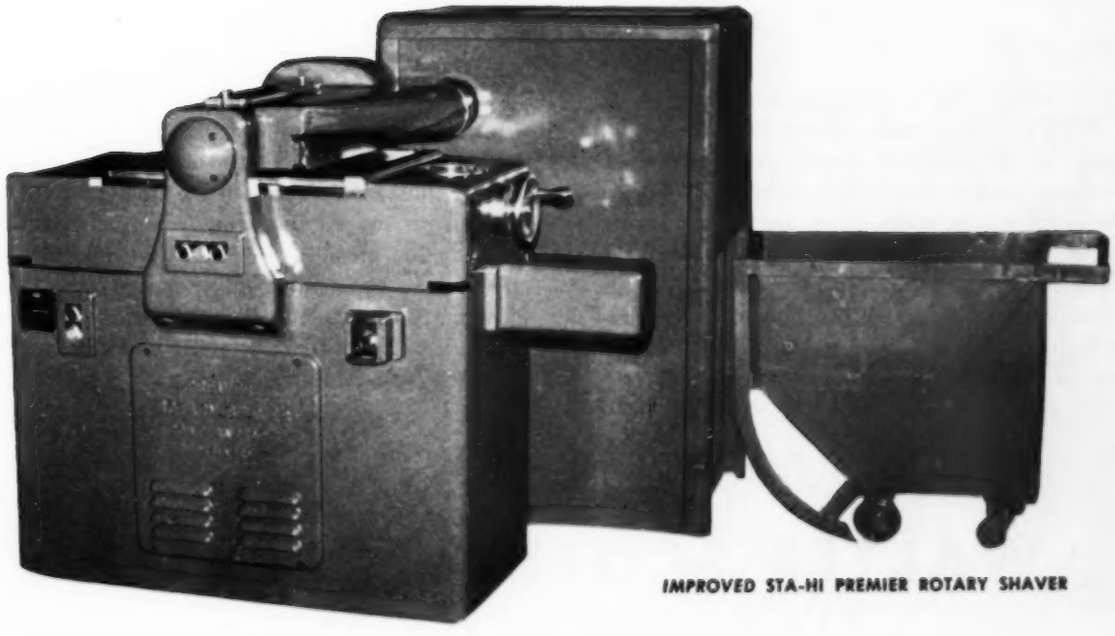
HIGH VELOCITY chip removal system, with improved filter, removable metal dumping cart rolling on casters.

QUICK ACCESSIBILITY to all operating parts requiring service.

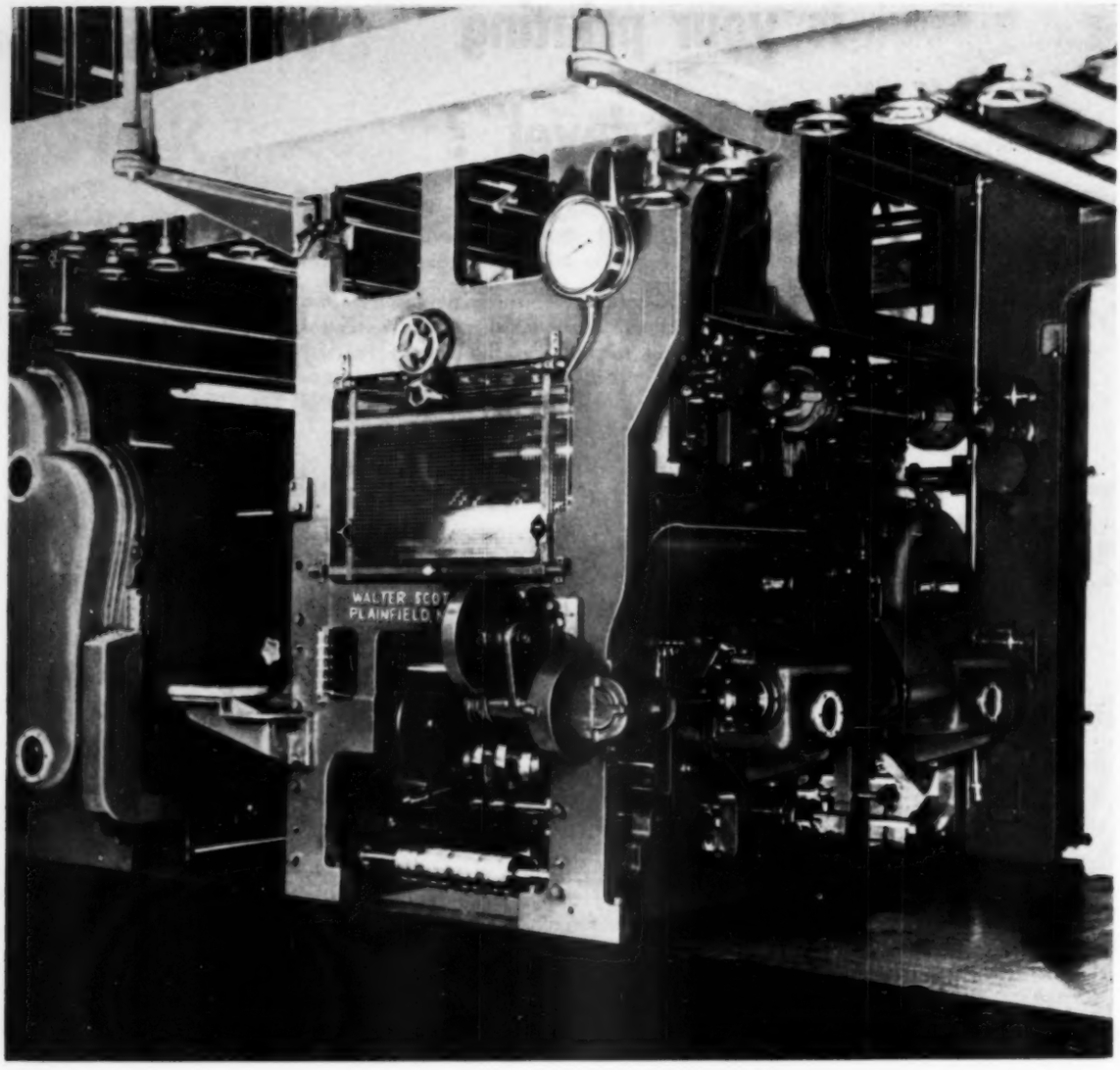
PRECISION PERFORMANCE . . . maintaining the same high standard of quality that for more than 20 years has made Premier the "most wanted" rotary flat plate shaver!

Sta-Hi Corporation

235 WEST WASHINGTON BOULEVARD
WHITTIER • CALIFORNIA



IMPROVED STA-HI PREMIER ROTARY SHAVER



THE SCOTT

128 Page 3 to 2 Folder

FOR more than a quarter of a century the SCOTT 3 to 2 ratio Folder has excelled all others. To this finest of Folders many sound engineering features have been added, e.g.: Forged alloy steel gears—main gears are immersed and run in oil—all main bearings are automatically lubricated by power driven pumps feeding the correct amount of oil as the operating speed of the Folder demands. The action of oil feeds is illuminated and visible—the folding cylinders are of one piece alloy steel.

Of major importance is the new automatic clutch—built into and part of the main drive shaft, this clutch functions automatically — precluding human failures—disengaging the motor drive from the folding and cutting mechanism, bringing the press to a Red Button Stop. Should an overload occur—folding operations are halted instantaneously while the nipping rolls continue to turn briefly until all units come to a dead stop—all sheets remaining in the press.

5-57-2

The latest of SCOTT Folders has no equal.

WALTER SCOTT & CO., INC.

PLAINFIELD, NEW JERSEY

Case History Report

HORN-SHAFER COMPANY

"Our time savings have ranged from 25% to 45% with 3M MAKEREADY" BRAND

says Mr. Horn, Horn-Shafer Company

PLAZA 2-7077 • 2-7078

The HORN·SHAFER Company

109-113 SOUTH STREET • BALTIMORE-2, MARYLAND

PRINTING · DESIGNING · PLANNING

Minnesota Mining and Manufacturing Co.
900 Fauquier Avenue
St. Paul 6, Minnesota.

Gentlemen:

The soundness of the theory of the 3M Makeready process we did not question. We had long been aware of the shortcomings of wood-mounted cuts which required planing, underlaying and elaborate hand cut makeready to get maximum results and proper tone values. However, we were skeptical about whether the time savings would justify the cost of the machine and material and whether our men would accept the process and use it so it would be a profitable investment.

For many years we have enjoyed a reputation for good quality printing, and our pressmen were pleasantly surprised to find that mixed halftone and type forms could be made ready in much less time, more easily, and with equal or better quality results from their work. In short, they sold themselves on the benefits of 3M Makeready and are using it to advantage in printing school annuals and similar work involving mixtures of type and cuts.

Our time savings have ranged from 25% to 45% from lock-on of the form to "okay to run" time. To say that the time saving helps our competitive position is to state the obvious. As we further experiment using your Makeready, we shall discover, new uses and short cuts. Our men have been made more aware of time and cost factors which is also healthy.

We are well pleased with the 3M Makeready process, and you may continue us on your roster of boosters.

Very truly yours,

THE HORN-SHAFER COMPANY

W. G. Horn Jr.

W. G. Horn, Jr.

3M MAKEREADY

BRAND

"3M" is a registered trademark of Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota. General Export: 99 Park Avenue, New York 16, New York. In Canada: P. O. Box 757, London, Ontario.

WOOD METROPOLITAN 4-COLOR UNIT

provides

COLOR OF YOUR CHOICE

Chosen by leading newspaper plants on a basis of proven performance, the WOOD Metropolitan 4-Color Unit provides the ultimate in fine quality ROP Color printing.

FEATURES

Greater Flexibility

●

Individual Couples reversible as desired

●

Adaptable for use with standard black and white units

●

Also prints black; press need not stay idle when no color is running

●

Color and black cylinders controlled by single gear which minimizes back-lash, assures better register

●

Four individual color fountains for each printing couple; removable for easy washup and color changes

THE WOOD PORTABLE COLOR INK FOUNTAIN

an integral part of the
WOOD METROPOLITAN 4-COLOR UNIT

FILM FEED: Makes possible ink film on ANY ink motion, on ANY newspaper press.

ECONOMY: Will operate on small amounts of ink; reduces ink waste.

DRIVE: No gear drive attachment necessary—each fountain driven by fricton from the most convenient rubber roller.

CLEANING: Pour out excess ink; immerse ENTIRE fountain in solvent bath; remove, and wipe clean.

ATTACHMENT TO PRINTING UNIT: Fountain may be attached to ANY bracket by merely tightening two locking screws. Adjustment of fountain relative to bracket permits firm setting against the rubber roller.

REVERSIBILITY: Color Printing necessitates reversing of cylinders in many instances—by a simple gear operation, the WOOD PORTABLE COLOR INK FOUNTAIN is ready for use.

CONSTRUCTION: Rigid design, yet light in weight, through the use of aluminum wherever possible. Precision built for accuracy and long life.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • Executive & Sales Office: 501 Fifth Avenue, New York 17, N.Y.

MAKERS OF PRESSES, REELROOM AND STEREOTYPE EQUIPMENT FOR OVER A HALF CENTURY

FEBRUARY 1957
VOLUME 87 NO. 5

PRINTING EQUIPMENT *Engineer*

THE INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields, covering major processes.

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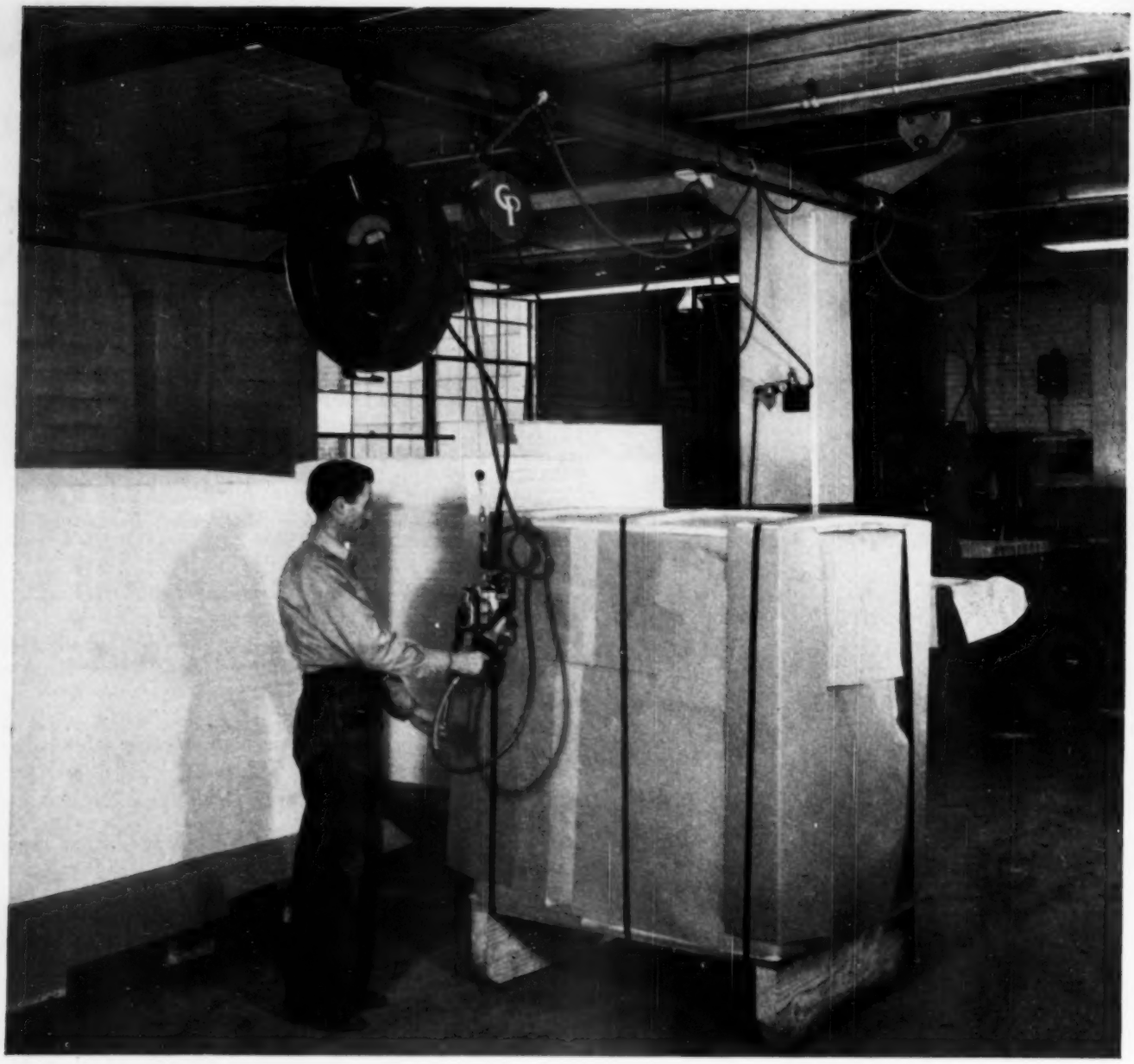
Member Publications BPA Business Audit

Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: Development work and refinement of a method for printing newspaper color by offset continues in the research laboratories of Rochester Institute of Technology. A recent experiment was the pre-printing of a color supplement for the St. Petersburg (Fla.) *Times* on RIT's four-color web offset press to determine problems involved in such production runs. The rewound newsprint rolls were shipped from Rochester, N. Y., to St. Petersburg and fed into press folders during a regular advance run on two sections of the *Times*' Sunday edition. Inspecting one of the rewound rolls are Alphonse Steyer (left), ATF service manager, and Ben Faden, *Times* pressroom superintendent.



Fast new way to strap paper skids

Strapping paper skids is fast and easy with a setup like this. The bridge crane gives mobility to the strapping equipment, and obstruction-free working space on the floor. Signode's new AP-34 air-powered strapping machine applies strap almost effortlessly, in seconds. This Signode design setup makes skid strapping a much more efficient and easy operation. It saves important time and, in addition, frees valuable floor space. A Signode field engineer will be glad to work with you to develop complete strapping stations in your plant, tailored to your needs. Let him help you save time and money now. Write:

SIGNODE STEEL STRAPPING CO.

2667 No. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-wide
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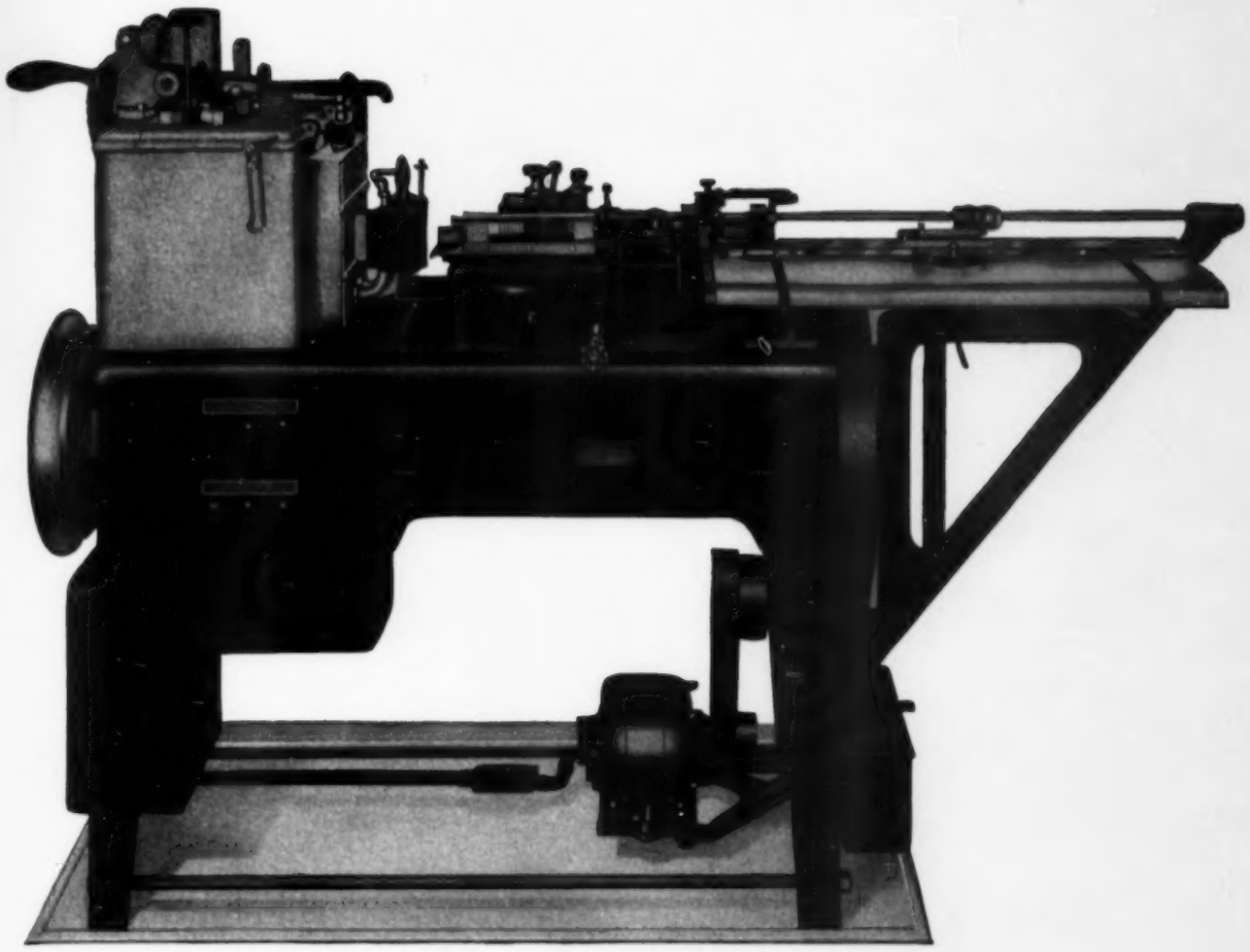


Elrod Simplicity

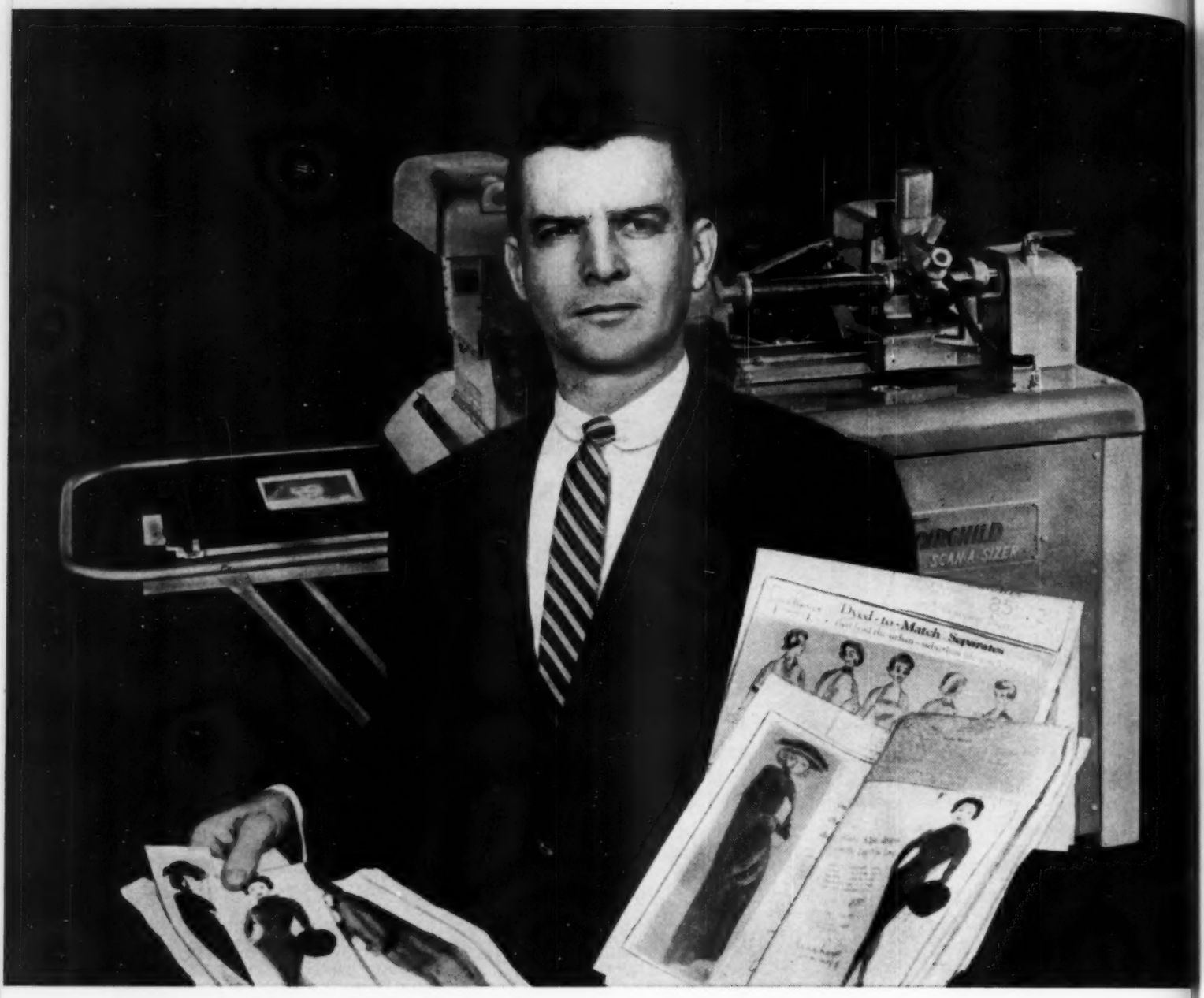
Simple in design and mechanism, the Elrod produces an abundance of high-quality strip material from 1 point to 36 points in thickness. Elrod material is formed as a continuous strip of metal, cooled and solidified under pressure.

Simple in operation, Elrod mold changes are easily made, and the machine will produce strip material for all composing room requirements.

As there is no complicated mechanism to get out of order, Elrod users have found through years of experience that cost of operation and upkeep is very low. Put an Elrod to work in your plant and it will greatly simplify many of your composing room problems. Available in both gas and electric models.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

Set in members of the Ludlow Tempo family



"How Scan-A-Sizer sold a 'once-a-month' fashion account on the use of big twice-a-week space."

by JOHN R. CORBETT, Retail Advertising Manager
Williamsport (Pa.) Sun-Gazette

"That's right—our new Scan-A-Sizer® helped us increase the account from an 84-line ad once a month to 520 lines twice a week. Lynn-Hayes, a high-fashion women's store here in Williamsport, is the account. Result: it helped build up its sales volume 35% and is now a leading fashion store in this area.

"You see, the Scan-A-Sizer enables us to use all sorts and sizes of art—photos, line drawings, 'swipes' from manufacturers' mailing pieces and catalogs—because it automatically enlarges or reduces while engraving. We have used this material constantly for Lynn-Hayes with outstanding results; locally-created ads pull better than mats. Now we're running more art for many of our accounts in both large and small space...And it's paying us dividends.

"Our Scan-A-Sizer will engrave 65 or 85 screen by merely flicking a switch. It produces engravings up to 13¾ x 16½".

"You don't have to bother with cropping. You simply place the art on the Scan-A-Sizer copy table, set the dial and the machine delivers the engraving in the size you want. You can use mounted or unmounted photos, clippings, swatches of cloth —even wallpaper.

"Our editorial department uses the Scan-A-Sizer heavily for special effects, photos presented by outside sources and especially on wire photos which come in odd sizes of column width. Yet, in spite of being used by 'all hands', it is completely reliable, every bit as dependable as the Scan-A-Graver we have used for the past seven years.

"Yes, you can quote me—'we're sold on Scan-A-Sizer because Scan-A-Sizer helps us sell'."

For full information on the Scan-A-Sizer address Fairchild Graphic Equipment Inc., 88-06 Van Wyck Expressway, Jamaica, N. Y. Dept. 100-44E1.

FAIRCHILD
GRAPHIC EQUIPMENT, Inc.

SCAN-A-GRAVER®—SCAN-A-SIZER®
Electronic Engraving Machines

"Safest stuff we ever walked on."

He's talking about A.W. ALGRIP, the world's only abrasive rolled steel floor plate . . . the safety floor plate that provides super-safe footing around presses and under the *most hazardous* slipping conditions.

Dozens of leading printing plants nationwide have licked slipping and skidding hazards caused by ink mist and oil by installing ALGRIP.

This exceptional safety plate is made by a patented process during which hard grinding-wheel type abrasive particles are rolled—not coated—to a controlled depth as an integral part of tough steel plate. Usage merely exposes more abrasive surface.

Make a test installation in your most dangerous slipping area. Watch ALGRIP pay for itself as accident and insurance rates go down. ALGRIP fabricates easily and requires no maintenance.

ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send me A. W. ALGRIP Booklet AL-S30

Name_____

Title_____

Company_____

Address_____

City_____ Zone_____ State_____

OTHER PRODUCTS:
A. W. SUPER-DIAMOND rolled steel floor plate—Plates—Hot and cold rolled sheet and strip—(Alloy and Special Grades)

Modern
reproductions
call for . . .

ANSCO Reprolith Ortho Type B Thin Base Film

Coated on a low-shrink safety base only .0035" thick, *Ansco Reprolith Ortho Type B Thin Base Film* is specially designed for printing through for lateral reversals, overlays and strip-ins. Like Ansco's regular Ortho Type B, it is an unusually high speed orthochromatic film of high contrast. Well suited for the production of negative and positive halftones and for line work from either colored or monochromatic copy, it permits the use of filters to improve copy rendition and eliminate costly hand-work on negatives.

FOR FINEST RESULTS, use *Ansco Reprodol*, the fast-working developer yielding maximum density and high contrast. For a hardening formula, you can't beat *Ansco Acid Fixer*, the easy-to-dissolve powder in the handy key-opening container.

ANSCO, Binghamton, New York. A Division of General Aniline & Film Corporation. *"From Research to Reality."*

Ansco . . .

graphically the finest since 1842

Hairline register...

hour after hour...

automatically...

No in-and-out . . . no off-and-on . . . no good-and-bad. Hurletron Color Register Control holds all colors in register with hairline accuracy . . . hour after hour . . . day in and day out . . . at speed-ups and slow-downs. Even at splices the Hurletron will make adjustments so quickly that waste is negligible.

Hurletron Controls are automatic. The most minute out-of-register condition is noted instantly. The information is transmitted to the compensating mechanism and the correction is made even before the error becomes visible to the human eye.

The unique Auto-Register feature greatly reduces registering-in time. It's a simple push-button operation. Corrections made manually are shown on the control panel dials in known increments. When everything is "on the head" you throw the switch to "Automatic" and the Hurletron takes over. It's as simple as that.

With Hurletron Controls on your presses you are certain of hairline color register throughout the run. Your Hurletrons will save operator time . . . reduce spoilage . . . and cut costs. And perhaps more important, they will give your advertisers what they want and expect.

Would you like to know more about Hurletron Controls? Write today. There's no obligation.

FOR YOU...

This fully illustrated booklet contains full details about Hurletron Controls for ROP Color Register. Write for your free copy today.

HURLETRON Automatic Color Register Control

ELECTRIC EYE EQUIPMENT COMPANY

1930 EAST FAIRCHILD STREET, DANVILLE, ILLINOIS

Manufacturers of: Hurletron R.O.P. Color Registration Controls; Automatic Controls of Caliper and Weight on Paper and Board; Center Line and Side Web Guide Controls; Cut-Off and Back-Up Controls; Slitter Controls, Moisture Controls.

Equipment & Supplies

If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Magnetic Galley Clamps

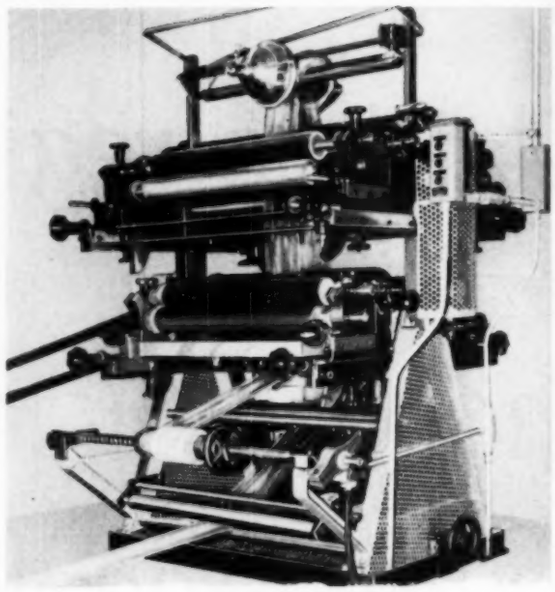
Stephen I. Griglak has designed magnetic galley clamps to hold type composition in steel galleys securely. The clamps, either rectangular or triangular in shape, fit against the bottom of the type matter or madeup page form, thus holding it in upright position. For further information, please mention PEE No. 330 in your request.

Four Color Test Press

A four color test press, the Vandercook 30-26 Double 4-Color, has been put into production by Vandercook & Sons, Inc. The press will print two sets of four color plates up to 13½ in. by 25 in., or one set up to 29 in. by 25½ in. Adjustable beds are available in one of two ways: First, with four adjustable beds to handle one full size set of process plates over the entire printing area of each bed; or, secondly, with eight adjustable beds, permitting two sets of four color plates to be proved at one time. With the latter arrangement, the eight beds can be raised or lowered independent of the others by means of two separate hand wheels, or both

(*Continued on Page* 14)

Polyethylene Printing Unit — Lee Machinery Corp. recently announced its line of flexographic presses designed for high speed printing on polyethylene. Available in from one to four colors, presses are operated roll to roll and are set up to feed into folder, sheeter, or packaging machinery. Fine register paper, polyethylene, Cellophane, foils, Pliofilm and cloth are handled with the press. Standard press is 27 in. wide, but is made available in widths from 15 in. to 30 in. Printing repeats range from 4 in. to 35 in. Register may be adjusted laterally and horizontally while press is in operation. Other features include forward and side adjustments on the unwind stand and brake tension control; two ink fountain rollers for each color of bronze and rubber; a plate cylinder throw-off that moves up and down away from the impression cylinder and ink rollers; stainless steel, self-locking ink fountains, elevator mounted for up and down movement; and bronze, split type plate cylinder bearings. Press weighs 2300 lbs., width is 56 in., length 57 in. and height 72 in. For further details, please mention PEE No. 325 in your request.



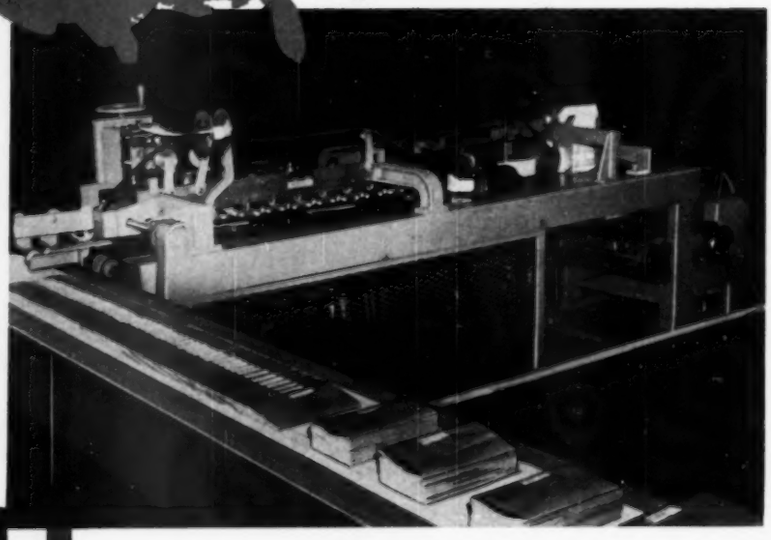
PUBLISHERS from COAST to COAST are relying on MAGNACRAFT Wrapping and Labeling MACHINES *to cut their costs!*

From the Atlantic to the Pacific you'll find the nation's leading publications wrapped and labeled the MAGNACRAFT way. Magazines are wrapped uniformly tight, always neat and sure to be received in attractive condition. Perfect label alignment all the time. **Does the job faster and better than ever before!** Eliminate confusion, messy wrapping, the unpleasant impression of subscribers! So simple to operate anyone can do it.

We can assist you in all your mailing problems, including the furnishing of attachments for your addressing machines to accurately punch the guide holes in the tape at the time of addressing. Write today for more particulars.

Magnacraft MFG. CO.

3138 W. Chicago Ave.
Chicago 22, Ill.



MAGNACRAFT MODEL E

Combination wrapping and labeling machine. Magazines can be wrapped and labeled; wrapped only; labeled only; or labels can be applied to the unwrapped magazine on this high speed heavy duty production machine.

The surest way to more printing production profits is to increase output of your present equipment without sacrifice in quality. And, if you can improve quality at the same time, you are competition and hard to beat!

ANNOUNCING

THE NEW, REVOLUTIONARY

OXY-DRY SHEET CLEANER

You BUY MORE PROFITS when you purchase the OXY-DRY SHEET CLEANER. Actual tests* show that your presses will deliver about 5% *more* impressions per hour, you'll stop the presses for wash-up about half as often per shift, save about 100 press sheets and the ink wasted in re-starting after washups. This means that inside one year the OXY-DRY SHEET CLEANER will pay for itself...after that, it's all profits for you. Maintenance, repair and service will be negligible...the equipment is engineered to last the life of the press.

The OXY-DRY SHEET CLEANER is the *only* sheet cleaner that uses both air and suction ★ Operates within ⅛" of sheet for positive consistent cleaning action ★ Improves register control ★ Dry spray can be used *every* time sheet goes through the press ★ Can be installed in two hours on either web or sheet fed presses ★ Flexible—one vacuum-blower differential unit can be moved from press to press to operate any OXY-DRY cleaner head in your plant ★ Successful installations have been made in Meredith Publishing Co., Kable Bros., Popular Mechanics and other leading printing plants where speed and quality are constant aims...Increased profits they are getting can be yours too ★ To get more information on OXY-DRY SHEET CLEANERS, write, wire or phone us now.

* 5 Color Cottrell 36" x 48"—Sheet Fed
More details on request

Patents granted and Pending
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OXY-DRY *means more profits for the graphic arts industry*

OXY-DRY SHEET CLEANER CORPORATION

1134 West Montrose Avenue, Dept. PE, Chicago 13, Illinois

NEW YORK **CHICAGO** SAN FRANCISCO

Photo below shows close-ups of the OXY-DRY SHEET CLEANER vacuum-blower head and head face.

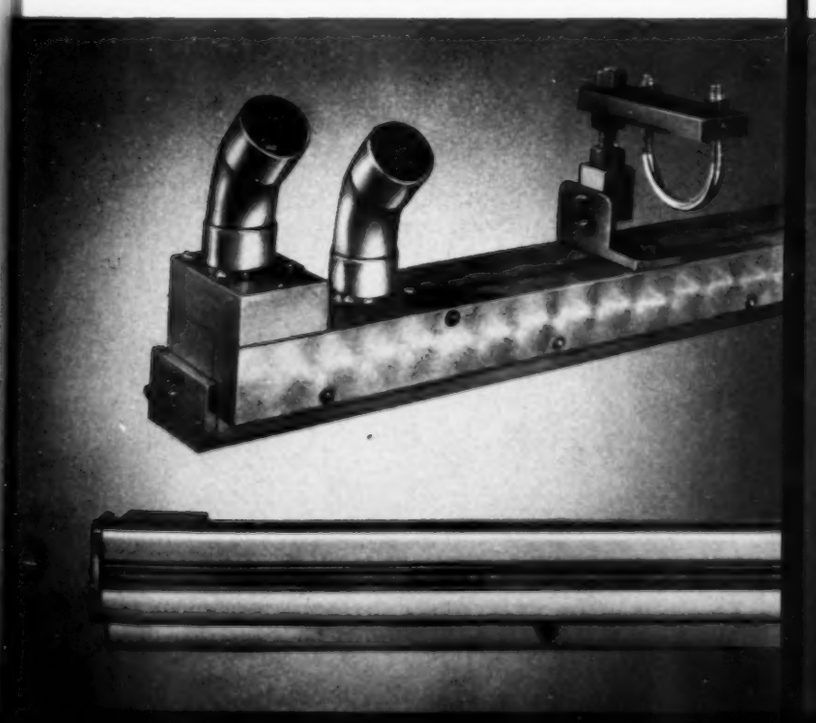
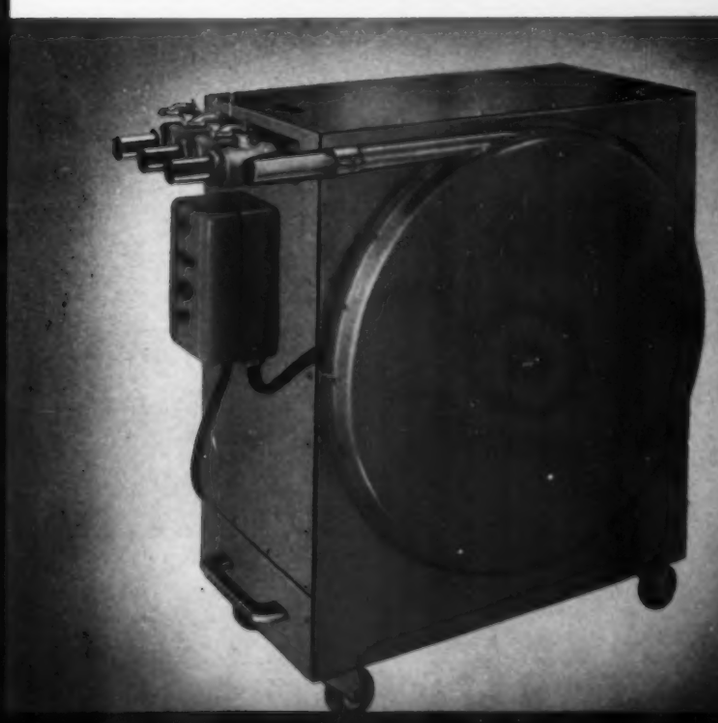
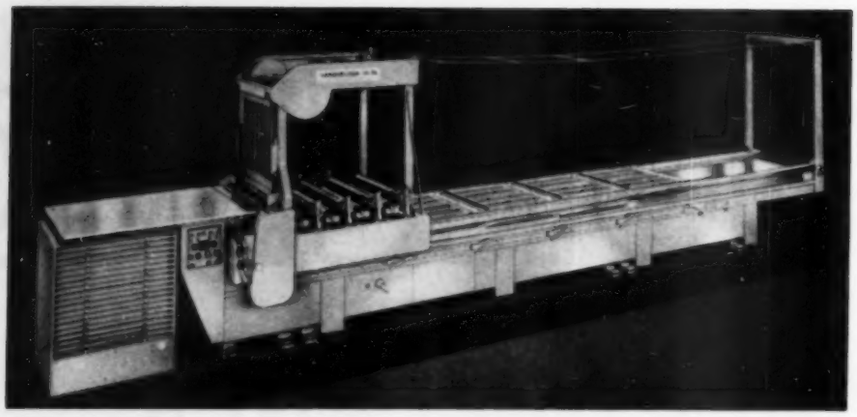
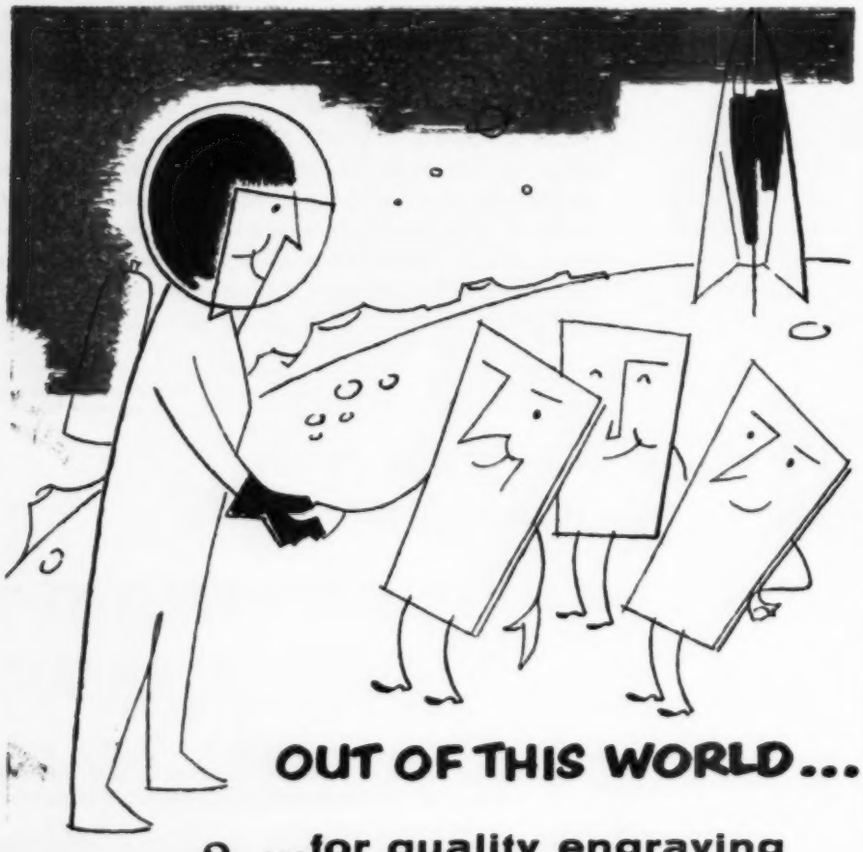


Photo below shows the vacuum-blower differential unit for the OXY-DRY SHEET CLEANER





Shown is the Vandercook 30-26 double four color test press recently put into production by Vandercook & Sons, Inc.



3 QUALITY ZINCS

DURAPLATE

...for quality engraving

Like most etchers, you want engravings with "out of this world" quality . . the kind that pleases hard-to-please customers. Imperial helps produce just such work with Imperial zincs, Duraplate, for heavy duty etching, Regular for ordinary work and fine grained Vitaplate for powderless or conventional etching. Experience their "out of this world" working qualities . . . talk to your Imperial representative . . . select one or more Imperial zinc alloys best suited to your needs.

Imperial

IMPERIAL TYPE METAL COMPANY

CHICAGO 50 · NEW YORK 7 · PHILADELPHIA 34

Equipment & Supplies

(Continued from Page 12)

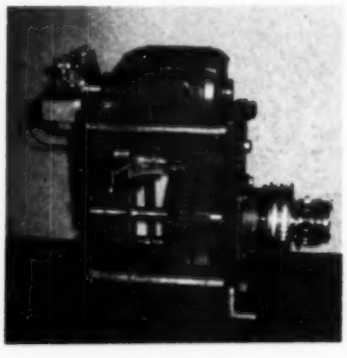
beds covering the entire printing area of each color can be adjusted together from a single hand wheel. Press will accommodate either originals or electros of varying thickness.

Split form roller vibrators and split ink feed vibrators are available so that different inks can be used on each of the two sets of plates being printed. Ink is applied to a supply roller and then fed automatically to the form rollers in controlled amounts.

A safety bar to prevent plate or press damage is attached to the front end of the cylinder carriage. Four power driven ink drums are located at the feed board. Other features are: Cam controlled automatic sheet delivery; electrically operated cylinder trips; control system for holding cardboard against the cylinder to prevent smearing; first bed (or yellow plate) is in the clear when the cylinder is at the feed board; and the press is powered for a.c. operation. For further details, please mention PEE No. 324 in your request.

Stub Roll Rewinder-Hoist Announced by A.P.S.

A stub roll rewinder and hoist has been announced by A.P.S., Inc. It is designed for use with Duplex Tubular or two plate wide printing



presses for rewinding stub rolls and for lifting the rolls in and out of presses. The rewind is driven from a double V belt. The hoist operates with a chain. The rewind and hoist may be operated independently. The lift may be operated manually. One motor is used to operate both the rewind and the hoist. For further information, please mention PEE No. 327 in your request.

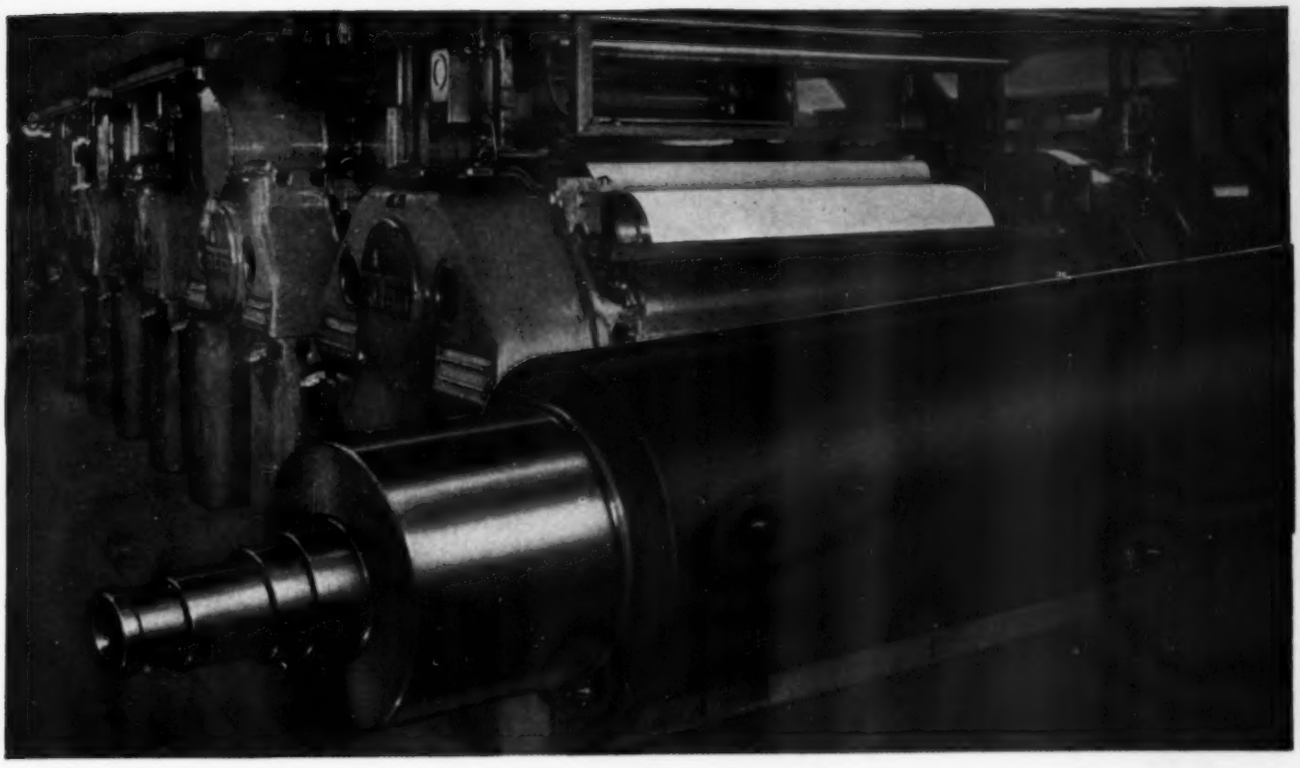
Large Size Etching Tray Has Been Added

Henry P. Korn has announced that a large size tray has been added to his line of Plexiglas etching trays. The new size dimensions are 38 in. by 54 in. by 5½ in. deep. This new size tray was developed for gravure and offset engravers who do large size step and repeat work on either film or glass. The tray is made from

(Continued on Page 18)

NEW COMPOUNDS RESIST PITTING, COLUMN SCORING

in DAYCO GOLD SEAL* *Newspaper Rollers*



Reduce the cost of roller maintenance with all-new, more resilient Dayco Gold Seal Newspaper Rollers. Dayco Rollers resist the pitting and column scoring which necessitate frequent, costly roller regrinding because they're made of entirely new synthetic rubber compounds possessing really amazing resilience.

This long-lasting ability to give under pressure, then return to their original shape, plus excellent tensile strength, means Dayco Rollers keep their smooth surface longer. Result: maintenance and regrinding costs go way *down*.

To assure you perfect inking of halftones, solids and type through every run, the newly developed compounds in Dayco Rollers keep their accurately rounded, ink receptive surface on the hottest, fastest press runs.

In addition, special fire resistance built right into Dayco Rollers helps increase press room safety because they will not support combustion.

Order a set of the all-new Dayco Gold Seal Newspaper Rollers. Comparison will prove their many money-saving advantages. Ask your Dayco Representative about the phenomenal Dayco Color Separator . . . lets you run countless ROP color combinations . . . confines misting. Or write direct to The Dayton Rubber Company, Dayco Division, Dayton 1, Ohio.

Dayco Rollers . . . for Offset, Letterpress, Gravure, Analin, Coating, Graining, Steel Mills. Dayco Offset Blankets, Dayco Fountain Dividers, Dayco Color Separators.

© D. R. 1956 *T. M.

Dayton Rubber

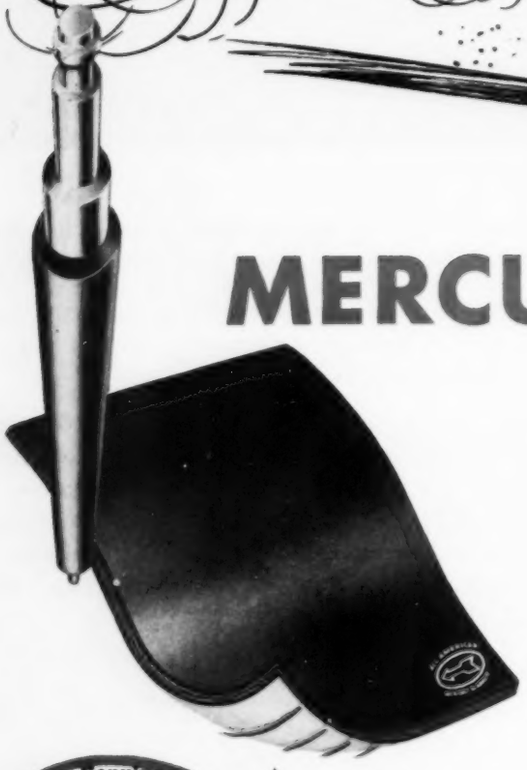
51 YEARS OF PROGRESS

West Coast Distributor, Tillicum Rubber Co., Lacey, Washington

They're miles ahead!

You get the big improvements first in

MERCURY PRODUCTS



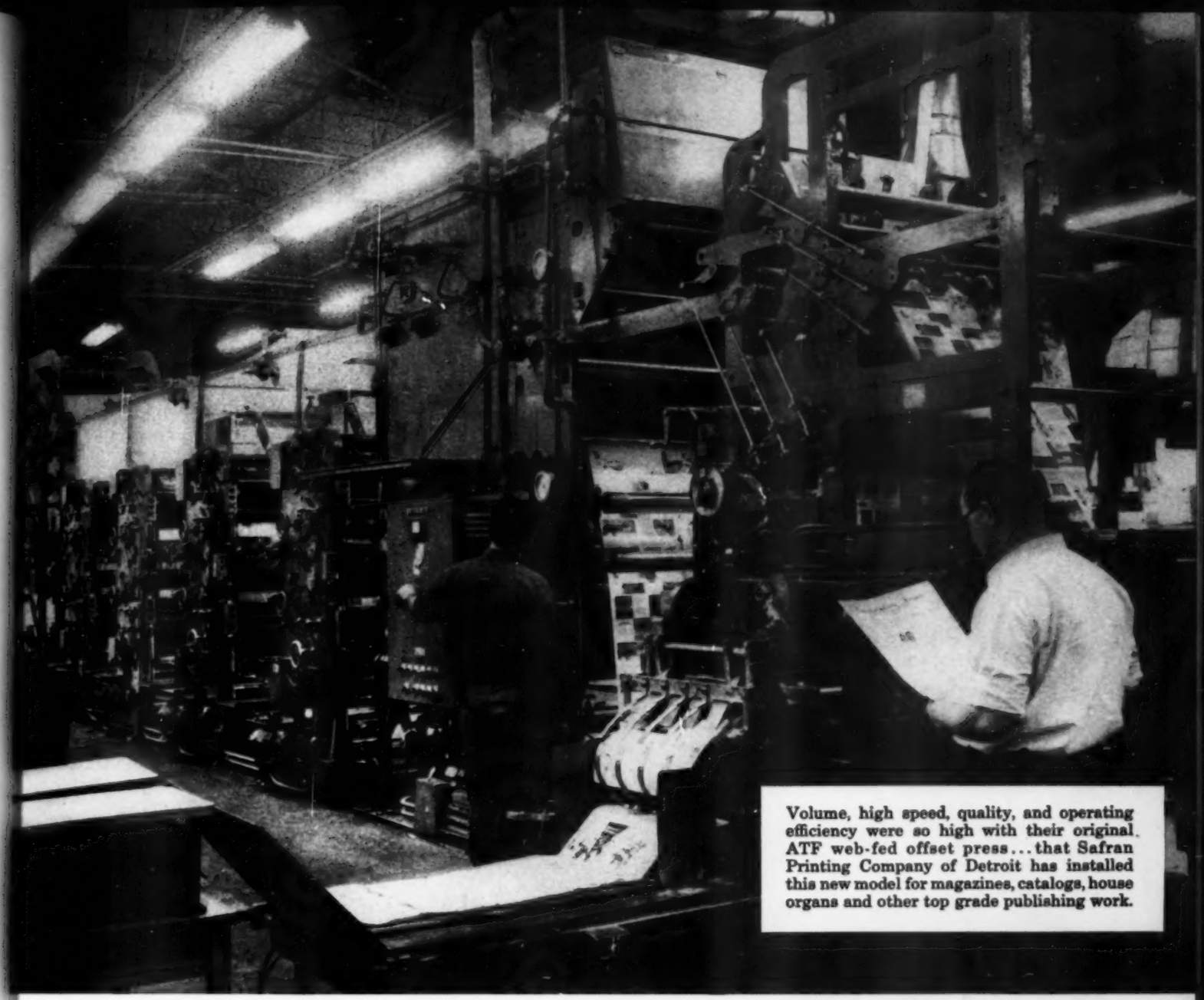
It's a good deal easier to keep ahead of your competition when your shop is equipped with up to date Mercury accessories. They're miles ahead — give cleaner, sharper impressions with less make-ready fuss than any other rollers and blankets you could use . . . and have specific formulae for all present day inks. Make the *most* of your equipment with Mercury Rollers and Blankets.

Genuine Mercury blankets are made only by Rapid Roller Company. Look for the green stripe on the back.

RAPID ROLLER COMPANY

MAIN OFFICE AND FACTORY: FEDERAL AT 26th STREET • CHICAGO 16, ILL.

EASTERN SALES OFFICE: 218-224 ELIZABETH AVE., NEWARK 8, N. J.



Volume, high speed, quality, and operating efficiency were so high with their original ATF web-fed offset press... that Safran Printing Company of Detroit has installed this new model for magazines, catalogs, house organs and other top grade publishing work.

The acid test of a great press

...is user loyalty! All over the country, leading printers like Safran Printing Company have found their ATF web-fed offset presses so profitable that they've come back for two, three, and sometimes four larger or additional units.

What's behind it? ATF's experience—our 25 years of working for and working with the printing industry—the *only* way to develop fine presses. And today, ATF can truly say:

• *ATF leadership sparked the expansion of the web-fed offset process—now a recognized method for top-quality, high-volume, low-cost publication printing.*

• *Every ATF web-fed press ever built is still in profitable operation.*

• *By standardizing many components, ATF offers even greater savings to printers who want to cash in on the superior profit-potential of offset.*

ATF has built up a storehouse of practical know-how and knowledge that will get you into profitable web-fed operation in the shortest possible time.

Invest a minute today to call your ATF representative. It may well open up a vast new world of profits for you.

AMERICAN TYPE FOUNDERS ATF 200 Elmora Avenue, Elizabeth, N. J.

better, more profitable printing...from the most complete line of equipment

4509

Equipment & Supplies

(Continued from Page 14)

clear Plexiglas. Tray sizes range from 11 in. by 14 in. up to and including the new large size. It is stated that these trays withstand chemical action in ordinary use such as silver nitrate, ferrocyanide and all dilute acids. For further information, please mention PEE No. 329 in your request.

ATF-Camco Folder Line

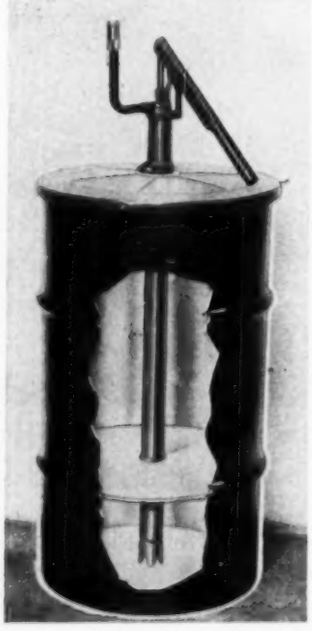
On the ATF-Camco (SC2) 46 in. by 56 in. folder, a knife type book and job machine, can be produced four right-angle folds to make a 32 page signature, or three right-angle folds and one parallel fold to make a parallel 32 page signature. A parallel 16 attachment may be attached to the machine.

Sponsor states features include: (1) ATF-Camco folders are compact because of a sheet turning device. The fourth knife makes both parallel and right angle folds. (2) In the Cross Feeder the speed of the drop rollers' descent upon the sheet as it emerges from the feed board can be advanced or retarded as desired. (3) Gripper can be adjusted sideways so the exact spot of the printer's gripper can be used if desired. (4) Wear due to vibration is reduced because of vertical knife drop. (5) Semi-automatic lubrication of all bearings and other moving parts inside the machine. For further information, please mention PEE No. 331 in your request.

nuArc Timer and Contactor — The nuArc timer and contactor available from nuArc Company, Inc., is for use in the Graphic Arts industry. May be used with all makes of arc lamps. Both timer and contactor are contained in a metal box and may be mounted on a wall. The units are supplied with the automatic reset feature. A single dial setting provides identical repeat operations. The heavy current relays are fitted with silver contact points for long life. There are 12 models to accommodate all current requirements except d.c. All models can be operated by seconds or minutes. For more details, please mention PEE No. 328 in your request.

Grease Gun Filling Dispenser

A grease gun filling dispenser which will fit the new 120 lb. drum as well as the 100 lb. drum has been introduced by the K-P Manufacturing Co. The dispenser is designed to be used with any standard grease



gun. Sponsor states construction is leakproof. Dispenser is equipped with a follower plate to handle heavier greases. The GFD-450-30 may also be obtained with bung screws for 1½ in. to 2 in. bung openings. For further details, please mention PEE No. 326 in your request.

Masking Plastic

A vinyl orange masking plastic for platemakers has been developed by the ByChrome Company, Inc. The

(Continued on Page 24)

Revolutionary!

THE Carlson SHELL PLATE FINISHER

Revolutionary indeed, the Carlson Shell Plate Finisher, figuratively and actually finishes plates from the bottom up... it outlines irregular edges and makes inside mortises faster and cleaner than ever before.

The flat cast is worked face up with the specially designed cutting tool *coming up* from *underneath*. It leaves a vertical edge with no bevel or burr.

The Locating Pin, directly above cutting tool shows exactly where cutting tool will come through plate.

Outlining: Note the clean, sharp and vertical edge of the outlined plate with *all* the chips on the discarded part.

Inside Mortises: Note the clean, exact mortise with *all* the chips on the discarded part. No burr or rough edge.

Finishes Plastic Plates, fast and clean with absolutely no danger of cracking or chipping.

PRODUCTION PRODUCTS FOR GRAPHIC ARTS

Chesley F. Carlson Company

Ben Franklin Building • Minneapolis 15, Minnesota

ANOTHER GOSS FIRST

UNIT-TYPE PUBLICATION PRESS

- Designed for Circulations of over 30,000
- Web-Fed...web width range from 44 to 49 inches
- 750 Feet of Paper travel per Minute
- Floor-Level Operation —No Pit Required
- Wide Range of Color Flexibility
- Variety of Signatures (8½" x 11" to 12")
- Continuous Ink Feed
- Central Control Center
- Low Initial Investment
- Expansion—designed for Adding Page Capacity and More Color
- Economical—Compact —Accessible

Higher Net Production for Intermediate Circulations

The new Goss Unit-type, web-fed, Publication Press...developed especially for the intermediate trade and organization journal field...offers flexibility and new operating economies.

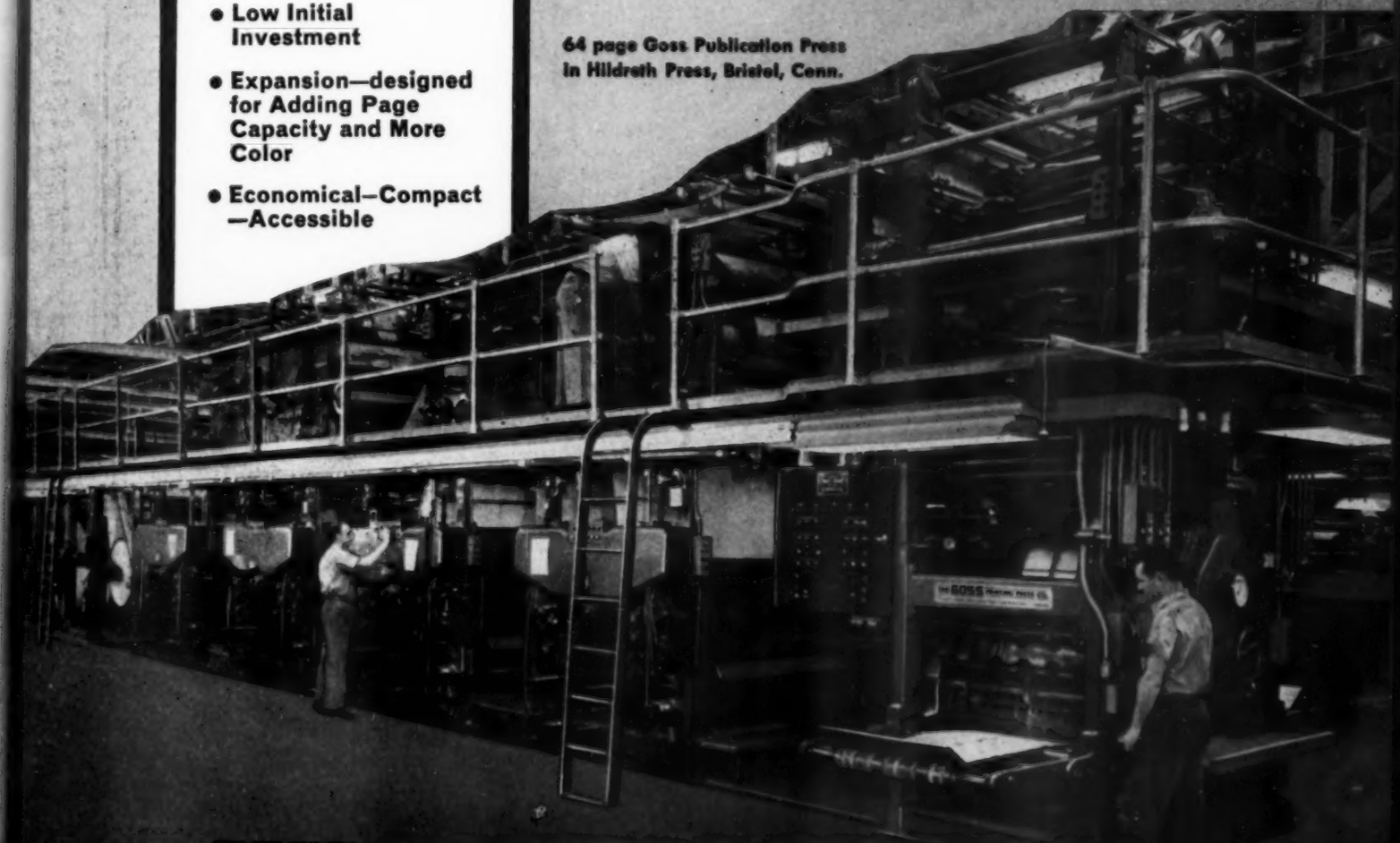
Designed for expansion...units and reels may be added at any time to increase page capacity and to provide more color.

The versatile new Goss press has these further advantages ...wide range of color flexibility...compactness and accessibility—plating and color setting are done from floor level... roller throw-off and press controls operated from a central control center...savings in paper handling time...elimination of back-up runs means higher net production at lower costs ...improved inking system—Continuous Ink Feed...and above all—Safety. All moving parts are enclosed.

Today's trend is to high speed, web-fed, printing of trade magazines.

You can depend on Goss to produce the finest...First.

64 page Goss Publication Press in Hildreth Press, Bristol, Conn.



THE GOSS PRINTING PRESS CO.

5601 WEST 31ST STREET CHICAGO 50, ILLINOIS

Whether you consider yourself an expert or a "babe in the woods" on plant planning and improvement,

don't miss the March issue of

PRINTING EQUIPMENT *Engineer*

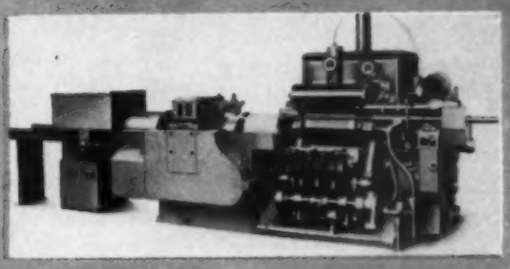
The Plant Planning and Improvement Issue of PRINTING EQUIPMENT *Engineer* appears in March. It's the only issue of its kind for the Printing Industry, and the worthwhile information on planning new buildings, remodeling, and improving existing plants could be a help to you. Whether you're planning changes or just interested in the latest developments of printing production, we're sure you'll find valuable reading in the March Issue. Watch for it. You'll be glad you did!

PRINTING EQUIPMENT Engineer, 1276 W. 3rd St., Cleveland 13, Ohio

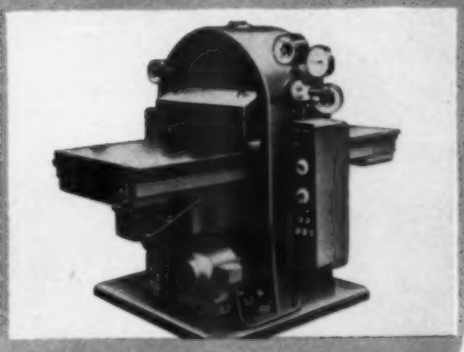
SEE HOE

for this M-A-N equipment

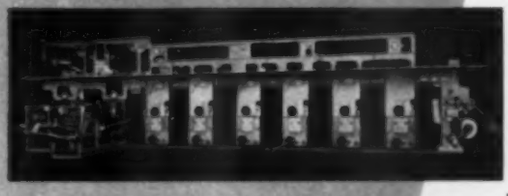
M-A-N PLATE CASTING MACHINES — New and exclusive pressure casting techniques combine efficiency and simplicity of operation with quantity and quality stereotype plates. The reduction, by almost half, of metal turnover, due to the elimination of tails, plus the resultant lower casting temperature, make this equipment the most economical to operate. It is shown coupled to a M-A-N Plate Finisher.



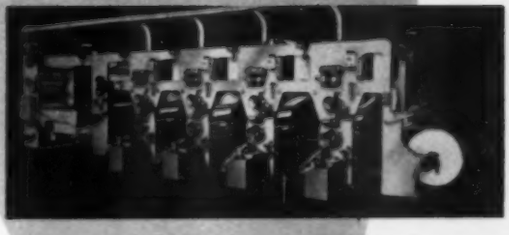
M-A-N MULTOPRESS AUTOMATIC HYDRAULIC MATRIX PRESS is built in 1000-ton capacity with 25"x30½" platens for extra heavy duty job and newspaper work, 800-ton capacity with 25"x30½" platens for heavy duty newspaper, job and magazine work, and 550-ton capacity with 20½"x26½" platens for job and magazine work. It may be arranged for steam or electrical heating and meets a wider range of requirements than any other molding press on the market today.



M-A-N WEB OFFSET PRESS — Supplementing Hoe's press line, the M-A-N web-fed offset press is designed to produce large or medium-sized editions such as telephone books, catalogues, magazines, etc. at high speed with the highest quality printing. It can be equipped for sheet delivery or folded product as desired.



M-A-N ROTOGRAVURE PRESS (NARROW WIDTH) — Heavy duty rotogravure web presses for single and multi-color printing of fixed or variable formats can be equipped with sheet deliveries, re-reeling devices or folders for double and multi-folds with stitching device if required. These presses are suitable for the printing of magazines, posters, wrapping paper, parchment and cellophane.



M-A-N LETTERPRESS MAGAZINE AND BOOK PRESS — The M-A-N web-fed, sheet delivered, rotary book printing press prints 12,000 30 11/16"x41¼" sheets per hour. It has a complete printing unit for first side printing and another complete printing unit for second side printing, plus an imprinting cylinder for spot color.

AND ALSO SEE HOE for this additional M-A-N equipment: a curved plate shaving machine, flat and curved routing machines, and a straight edge trimming machine.

It will pay you to get in touch with Hoe

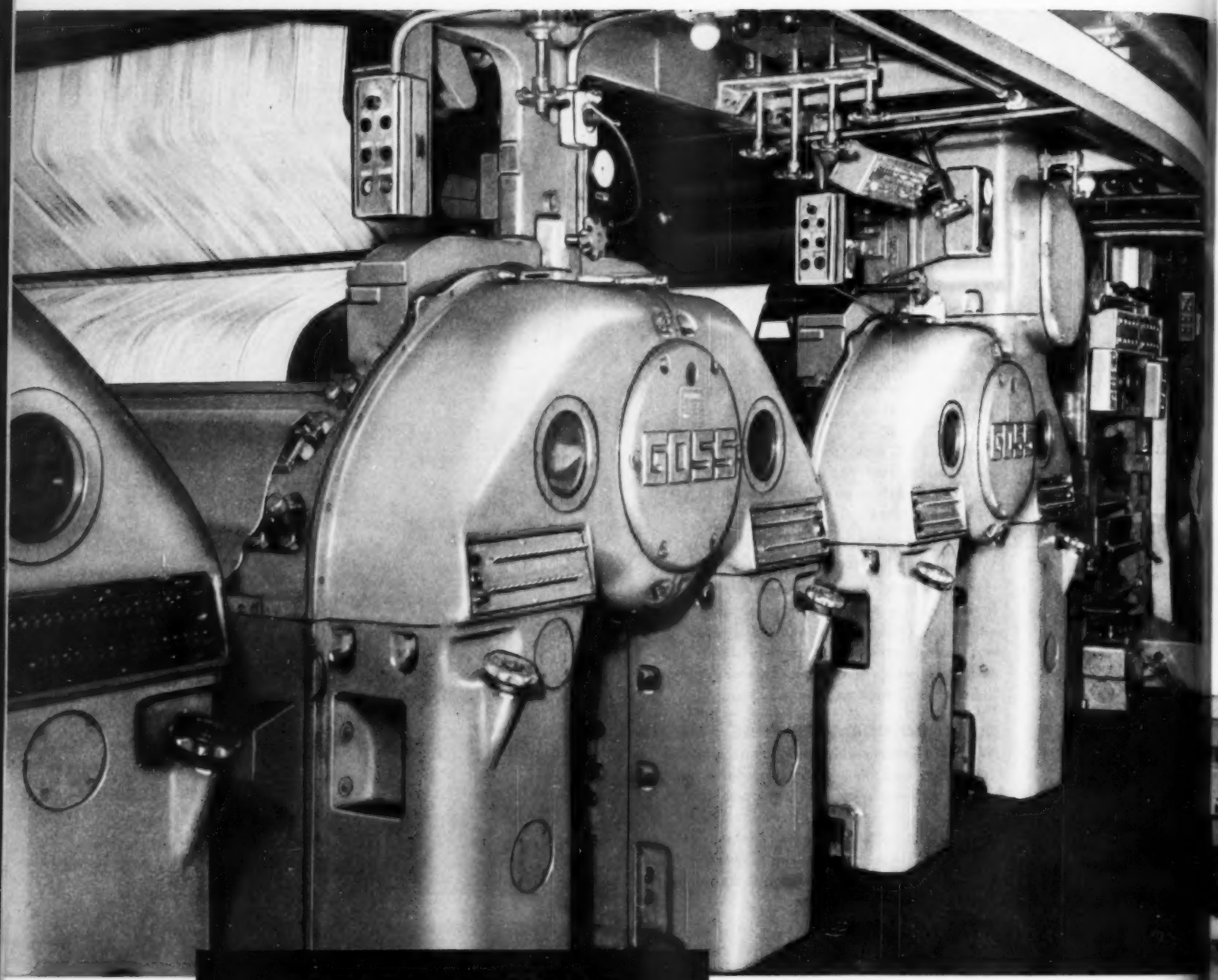
R. HOE & CO., INC.

910 East 138th Street, New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

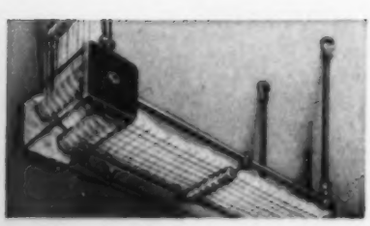
WANT ALL UNIT

Without trouble,



CUTLER-HAMMER UNIT PRESS DRIVE INSTALLATION *in the Miami Herald*

MIAMI HERALD,
one of Knight Chain of newspapers has this recent installation. Consists of 12 Unit Goss Headliner Press equipped with C-H Unit Press Drives. Runs consistently 44 to 48 thousand newspapers per hour.



CUTLER-HAMMER NEWSPAPER CONVEYORS
Used in practically every conveyor-equipped plant in North America. Standard Duty Type handles up to 56 pages at any speed up to 60,000 I.P.H. Heavy Duty Type handles up to 96 pages at speeds to 60,000 I.P.H.

CUTLER-HAMMER WEB BREAK DETECTORS
Stop press instantly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

IT DRIVE ADVANTAGES

le, delay, excessive costs?

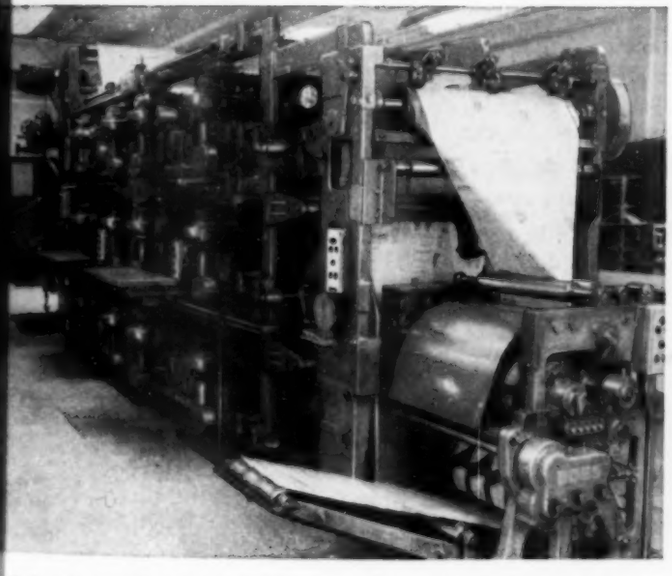
Then keep it simple...Keep it sturdy...KEEP IT CUTLER-HAMMER

There is no need for putting up with trouble in a unit drive press installation. For Cutler-Hammer has achieved the maximum advantages of this type of drive, and done it so simply, so sturdily and dependably that putting on an edition becomes a mere routine matter of course.

Cutler-Hammer has taken the simple, sturdy, *familiar* components—the sturdy Ac wound rotor unit motors, the simple, sturdy, familiar industrial type control components, and integrated them into a unit drive that stands alone and is thoroughly understood by your regular plant electrician. Each press unit has its own driving motor. Each driving motor has its own control . . . its own independent primary control, its own independent secondary control. This gives true unit-type construction and operation. No transferring of main motor circuits from one folder controller to another. Failure of one component won't immobilize the press; the entire press can still be run at top speed without risk of overload.

Each motor has its own braking system, its own braking contactor, its own auto-transformer, its own rectifier for Dc braking. Control is connected directly to commercial voltage supply lines. No transformers. No conversion apparatus. Motors are easily installed; no special alignment between rotors is required. No problem of "dividing" press load, or of circulating currents. No instantaneous peak torque output during acceleration/deceleration. The C-H cam drum accelerator has 83 speed points. Inching and threading *don't* draw current through the battery of motors. These and many more features of operation, safety, easy maintenance at top performance constitute reasons why you should investigate this simplest, sturdiest, most dependable, most advantageous of all press unit drives. Write or phone for further information. CUTLER-HAMMER, Inc., 1460 St. Paul Avenue, Milwaukee 1, Wisconsin.

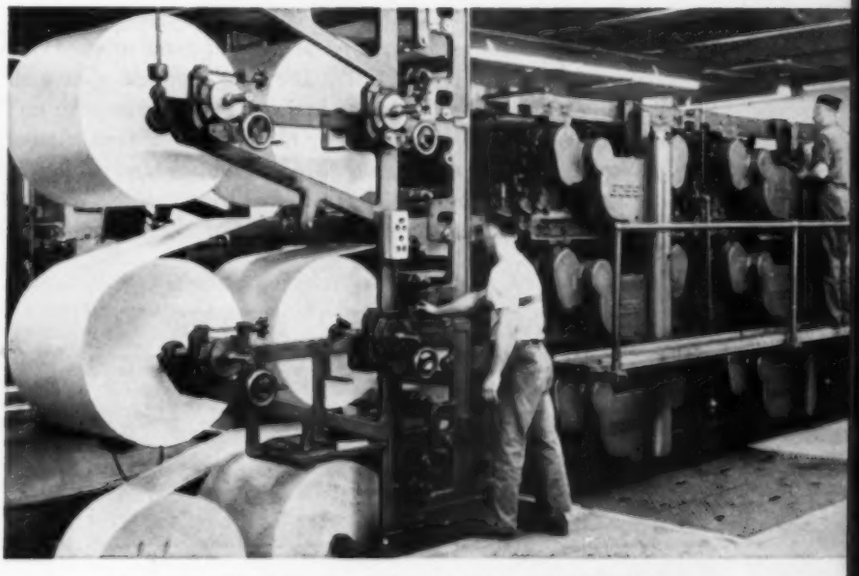
CUTLER-HAMMER
MOTOR CONTROL
C-H



Cutler-Hammer 2 Motor Drives serve many color plants as well as municipal dailies such as

THE EVENING REPUBLICAN
COLUMBUS, INDIANA

Robert N. Brown, Manager, says C-H Drive on Goss Dek-A-Tube Press has given peak performance at all loads from 2 to 24 pages.



Cutler-Hammer drive on Goss Dek-A-Tube Press.

MARSHFIELD NEWS HERALD
MARSHFIELD, WISCONSIN

Glass armored tympan covers reduce static!

Spherekote Tympan Covers Solve Static Problems—Runs Get Off the Press Faster!

Press down time caused by static is reduced sharply with SPHEREKOTE Tympan Covers. Even troublesome stocks like gummed labels or onionskin are off the press faster because SPHEREKOTE Tympan Covers support the stock on millions of tiny glass beads—actually reduce the total stock-to-tympan contact area and, consequently, reduce static!

You'll benefit many ways when you put glass armored SPHEREKOTE Tympan Covers on your press. The glass armored surface allows perforating without metal shims and prevents smear or smudge on fast backups. The precision controlled uniform caliper assures cleaner, sharper halftones, precise register on color and black and white. Investigate SPHEREKOTE Tympans—ask for a personal demonstration. Write: Minnesota Mining and Manufacturing Co., Dept. FM-27, St. Paul 6, Minnesota.

REG. U.S. PAT. OFF.
SPHEREKOTE BRAND
TYMPAN COVERS
PRODUCT OF 3M RESEARCH

Made in U.S.A. by Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. General Export: 99 Park Ave., New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

Equipment & Supplies

(Continued from Page 18)

plastic is available in two sheet sizes: 25½ in. by 38½ in. and 38½ in. by 51 in. Material is available on special order in rolls 52 in. wide. Sheets are packed in cartons containing either 25 of the larger sheets or 50 of the smaller sheets. For further details, please mention PEE No. 323 in your request.

Two Bauer Type Faces

Bauer Alphabets, Inc. recently announced two type styles, Venus Light Condensed and Maxime. Venus Light

Maxime

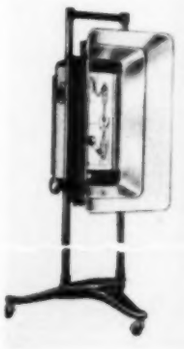
Maxime

ABCDEFGHIJKLMNOPQRSTUV
WXYZ

abcdefghijklmnopqrstuvwxyz

Venus Light Condensed

Condensed is of the Condensed Gothic family and is carried from 6 pt. to 66 pt. Maxime is a script face based on the handwriting of Peter Schneidler, graphicer, book illustrator and painter. Maxime is available in 24, 30, 36, 42, 54 and 66 pt. For further details, please mention PEE No. 312 in your request.



Xenon Arc Lights—Repro Graphic Machines, Inc. recently announced Klimsch Xenon arc lights, camera arc lights and printing arc lights. Klimsch arc lights for color work ignite immediately and deliver a constant daylight type with a continuous spectrum, states sponsor. An arc of 2000 w. energy, enclosed in a quartz tube, burns in an atmosphere of Xenon gas under high pressure. The exchangeable burner, with a claimed average lifetime of 1000 hrs., is mounted in a large reflector. Reflector is equipped with accessories for automatic starting and a blower for cooling. Burner is protected on front side by a heat-resistant glass pane.

For average copy work lamps are mounted in pairs on movable tripod stands. Arc lights are also available to fit into lamp holder frames of process cameras. For transparency work, a special reflector with two burners lamps is available. The connecting gear to the power line consists of elements mounted in a fan cooled cabinet. Two types of connecting gear are available: One for

(*Continued on Page* 28)

NEW CLINE ELECTRIC Wet-Glue Paster Tape... CLINEX

CLINEX

CLINEX — a new tape for easier and more economical wet-glue paper splicing . . . One side is water sensitive, the other side is sensitive to CLINEX Solution for quick and lasting tackiness . . . Check the outstanding features of CLINEX, there's nothing else like it!

Easy to use. Moisten CLINEX tape with water and apply to waiting paper roll, then moisten exposed surface of tape with CLINEX SOLUTION to make it contact sensitive.

- **Saves Make-Up Time**
- **Applicable to Any Wet-Glue Paster Equipment**
- **Provides Quick Tackiness**
- **Remains Tacky Indefinitely**
- **Eliminates Bulk Paste Problems**
- **Affords Greater Economy**

Trial kits are now available.

Stay ahead with Cline

Another first by CLINE ELECTRIC

CLINE ELECTRIC MANUFACTURING COMPANY • 3403 WEST 47th STREET, CHICAGO 32, ILLINOIS • LOS ANGELES 17, CALIF. • NEW YORK 17, N.Y.

Literature

Use the Coupon—It's Easier and Quicker

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please ask for the pieces selected by number and send your request to Literature Dept., *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Composing Room

TYPE FACES

Three pages of Advance Proofs are now available showing fifteen additional Intertype Corporation Fotosetter faces. Among them are: Bodoni Modern, Cornell, Cornell Italic, four additional weights in the extensive Futura series and three additions to the Gothic series. Also included in the proofs are light weights of Futura 18 pt. Advertising Figures which are available with Size C top aligning figures. For copies, please mention PEE No. 176L in your request.

MATRIX SERVICE

Matrix Contrast Corp. provides a plan to keep linecasting matrix reference marks clean and visible in black and white and/or colors. A booklet in which is included complete information about the method is now available. For a copy, please mention PEE No. 177L in your request.

TYPE AND LETTERING STYLES

Type Designs and *Lettering Styles* are two Filmotype catalogs in which hand lettered effect display type styles are presented for the Filmotype photocomposition machine. These include over 1000 styles and sizes of faces for pasteup work. For a copy, please mention PEE No. 178L in your request.

PROOF PRESS

Descriptive literature is available on the Wesel EPP-4 proof press, manufactured by Wesel Manufacturing Co. The proof press is equipped with automatic stopping, mechanical safety guards and platen inking system. For a copy, please mention PEE No. 179L in your request.

LUDLOW COMPOSITION SYSTEM

A 32 page booklet, descriptive of Ludlow Typograph Co.'s contribution to composing room production, has been published. In the booklet, *Some Reasons Why Printers Prefer Ludlow*, such problems as type shortages, type breakage, scarcity of spacing material, press workups are discussed. For a copy, please mention PEE No. 180L in your request.

POT TEMPERATURE CONTROL

Star Parts, Inc. has issued an illustrated leaflet descriptive of its composing machine thermostatic pot temperature control unit. The Star Microstat will vary +3 deg. for control of type metal temperature under average conditions. For a copy, please mention PEE No. 181L in your request.

PROOF PRESSES

A catalog of Challenge proof presses is now available from The Challenge Machinery Co. Included are the GP Model for reproduction proofs for offset or engraving and for color proofing; the Model K with hand inking; the Model E cylinder type proof press; and the Model H for rough galley work. For a copy, please mention PEE No. 182L in your request.

PUSH BUTTON QUADDER

Literature is available on the Star Parts, push button control for Star Selectro-Matic linecomposing machine quadders. The control is located at the right side of the keyboard and is standard equipment on every installation. For a copy, please mention PEE No. 183L in your request.

CRAW CLARENDON BOOK

Freeman Craw, who developed both Craw Clarendon and Craw Clarendon Book for American Type Founders, has designed a specimen brochure on Craw Clarendon Book. In the brochure he demonstrates how the two weights may be combined and illustrates some of the uses to which the companion faces lend themselves. For a copy, please mention PEE No. 184L in your request.

ROUSE EQUIPMENT

In a catalog, issued by H. B. Rouse & Co. are illustrated and described such equipment as mitering machines, lead and rule cutters, composing sticks, type gauges, slug clippers, and band saws. For a copy, please mention PEE No. 185L in your request.

TYPE STYLES

Halber Corporation announced publication of a 20 pg. booklet of Typro type styles. Presented are standard type faces; hand lettered styles, including connecting scripts; specialties and novelties—representing over 1500 fonts. Fonts are used for producing display headings up to 144 pt. For a copy, please mention PEE No. 186L in your request.

Platemaking

ROP COLOR

A color booklet, *ROP Color Simplified*, includes detailed information on Curtis Laboratories' color equipment and the Curtis color process. The Curtis Color Analyst is an optical device using filters and mirrors to produce a single full color image from three black and white separation prints or proofs. For a copy, please mention PEE No. 187L in your request.

TUBULAR ROUTER

Sta-Hi Corp. will send the detailed story of its Tubular Master Router for routing tubular press plates. Extra features of the router are: Automatic plate stripper, double page matching device and air jet chip remover. The machine is completely enclosed. For the detailed story, please mention PEE No. 188L in your request.

COLOR MAT MOLDING

The Lake Erie Directomat for molding ROP color mats is the subject of Bulletin 349 published by Lake Erie Engineering Corp. With the Directomat, shrinkage is said to be controlled to a point where each mat is in almost perfect register with the others. For a copy, please mention PEE No. 189L in your request.

COLOR MARKETS FOR PRINTERS

New Markets for Color Printers is an eight page informational booklet which suggests new business opportunities available to the printer through use of short-run three color process. The illustrated booklet, prepared by Eastman Kodak Co., is descriptive of the standardized procedures and elimination of handwork that the recently introduced process offers. For a copy, please mention PEE No. 190L in your request.

Pressroom

PORTABLE INK FOUNTAIN

The Capco 30 lb. ink fountain is illustrated and described in literature published by Capital Tool & Mfg. Co. The Capco fountain can be used on new or old press equipment. For a copy, please mention PEE No. 191L in your request.

STOP OFFSET EQUIPMENT

Both wet and dry spray units for preventing offset are described in folders and literature produced by Ortman-McCain Co. Models are available for any size press. Also included is information about spray materials, both powder and liquid. For a copy, please mention PEE No. 192L in your request.

PRESS INSTALLATION

A booklet, *Your Press Installation—Minimum Cost—Maximum Efficiency*, has been made available by Central Newspaper Installations, Inc. C.N.I. installs new presses of any manufacture with C.N.I. supervisors, riggers, machinists and tools and equipment. C.N.I. also specializes in complete plant moves. For a copy, please mention PEE No. 193L in your request.

COLOR REGISTER CONTROL

A fully illustrated booklet in which is explained operation of Hurletron Automatic Color Register Controls, is available from Electric Eye Equipment Co. The register controls described are for rotogravure presses. For a copy, please mention PEE No. 194L in your request.

(*Continued on Page* 83)

PRINTING EQUIPMENT *Engineer*
1276 West Third St., Cleveland 13, O.

Please send information about following:

Reference Nos. _____

Name _____

Position _____

Firm _____

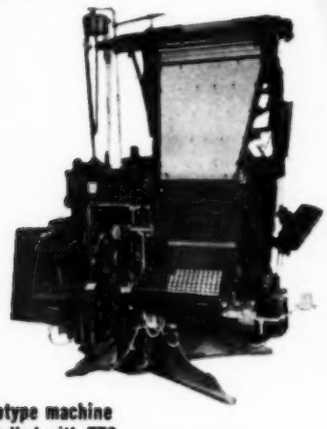
Street Address _____

City _____ *Zone* _____ *State* _____

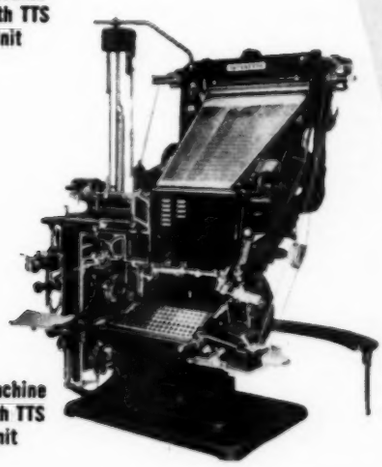
Cut Linecasting Costs with Mechanical AUTOMATION by TELETYPESETTER

AUTOMATION

Teletypesetter Perforator



Linotype machine installed with TTS Operating Unit



Intertype machine installed with TTS Operating Unit

Here's why:

1. **DOUBLES OUTPUT** of type. One TTS equipped linecasting machine will give the same production as two manually operated machines, and with only one linecasting machine upkeep.

2. **SOLVES PROBLEM** of finding experienced operators. With a TTS system a good touch-typist sets copy in tape form.

3. **CUTS OVERTIME.** Typist can punch tape at a rate of a galley or more type per hour after just two weeks practice. After six months, most operators can produce 400 or more lines per hour.

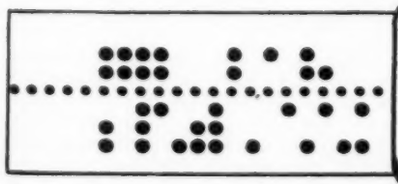
4. **VERSATILE COMPOSITION.** With TTS you can easily set run arounds, box scores, centered or flush left subheads, and tabular matter in any column width up to 30 picas.

5. **TO OPERATE MANUALLY.** TTS equipped linecasting machines can be operated manually by merely turning the control lever to the "OFF" position.

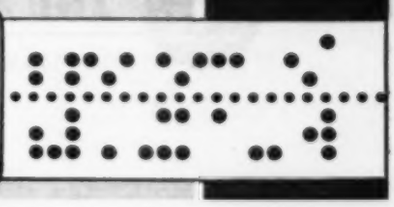
6. **INSTRUCTIONS.** No charge for installation, instruction of operators, or the training of maintenance personnel on original installation.

7. **SIMPLE TO MAINTAIN.** Any machinist of average mechanical ability can easily maintain TTS equipment.

8. **PROVED IN USE.** Teletypesetter has been providing mechanical *automation* to daily and weekly newspapers since 1932.



TELETYPESETTER CORP.
2752 North Clybourn Ave.,
Chicago 14, Illinois



Equipment & Supplies

(Continued from Page 24)

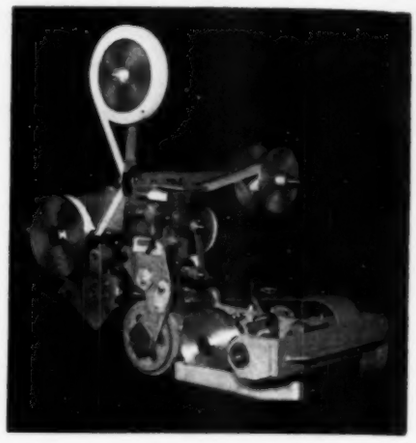
steady output of 70 amps, lamp current and the other with a regulating circuit allowing amperage of lamps to vary from 10 amps. to 70 amps. Klimsch Xenon arc lights do not change light temperature if regulated to a low load, sponsor states. Connected to 220 v., a.c., 3 ph., the load will be approx. 25 amps. in each phase if two Klimsch arc lights are operated at 2000 w. each. For further details, please mention PEE No. 316 in your request.

Vegetable Adhesive Gumming

A vegetable adhesive gumming has been announced by National Starch Products for flat gummers making trading stamps, stickers, labels and other products having remoistenable surfaces. A new dextrin known as Amioca 85, when added to conventional dextrin, is said to provide a coating which offers resistance to wash off and provides long tack range. For further details, please mention PEE No. 333 in your request.

Magnacraft Labeling Head

The Magnacraft dual rotary labeling head has been announced by Magnacraft Manufacturing Co. The labeling head is constructed to handle all tapes and to turn out up to 18,000 labels per hour, depending upon the type of machine on which it is mounted. The labeling head can be utilized on single book trimmers, wrapping machines and mailing machines. With the labeling head, the label is cut and glue is applied. The head can be adjusted from Dick Strip



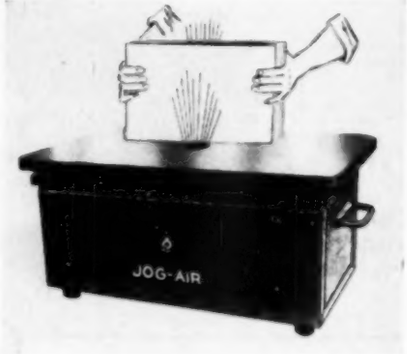
operation to electronic tape. Machine includes ⅞ in. hole spacing up to 2-13/16 in. hole spacing. Tape widths up to and including 3½ in. can be handled. For further information, please mention PEE No. 334 in your request.

Open Gear Spray Lubricant

A 16 oz. container is now being used for Spray-Lube, Pressure Products Co.'s aerosol-packaged open gear lubricant. Spray-Lube, it is claimed, makes possible spraying of all gears not running in oil. Sponsor states lubricant will remain flexible and assure lubrication even in extreme cold weather conditions. For further details, please mention PEE No. 306 in your request.

Air Flow Paper Jogger

Harvey Engraving Co. recently announced its paper jogger featuring a pulsating air flow from the center of the 12 in. by 22 in. table. The unit is operated on 110 v., a.c. A. J. Harvey, president of the firm, stated that the air flow feature separates the sheets and reduces friction of one sheet against the other allowing quick settling to the vibrating surface of the jogger. Air flow also re-



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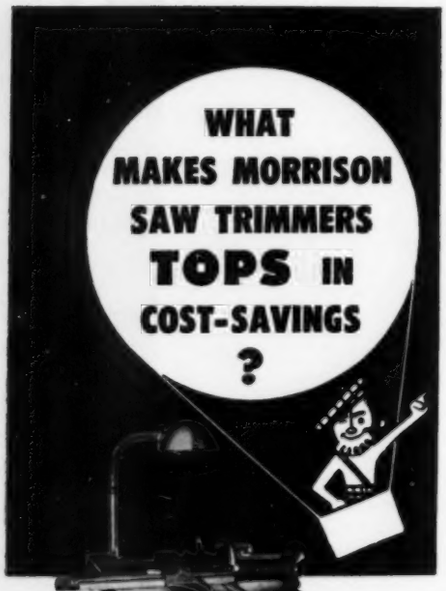
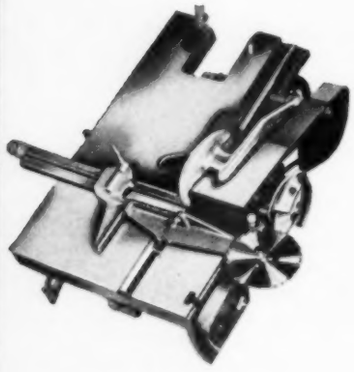




Do-it-Yourself Saw Grinding Attachment

Actually this Saw Grinding Attachment alone will eventually pay for your Morrison Saw Trimmer! You'll avoid all outside expense and chargeable labor time keeping blades sharp. Anyone in your plant can sharpen your saw blades with this simple, accurate grinding attachment — in less time than required to change blades on other machines. Another saving — Morrison Patented Universal Saw Blades cut 3 to 5 times more material between sharpenings.

Write for complete catalog on Morrison Saw Trimmers illustrating many other features that make them your best investment for composing room efficiency. Four models fit every plant, every budget.

THE *Morrison* COMPANY

125 W. Melvina Street • Milwaukee 12, Wis.

Maximum Daily Production...

Maximum Size Range...

of Gathered, Saddle-Stitched

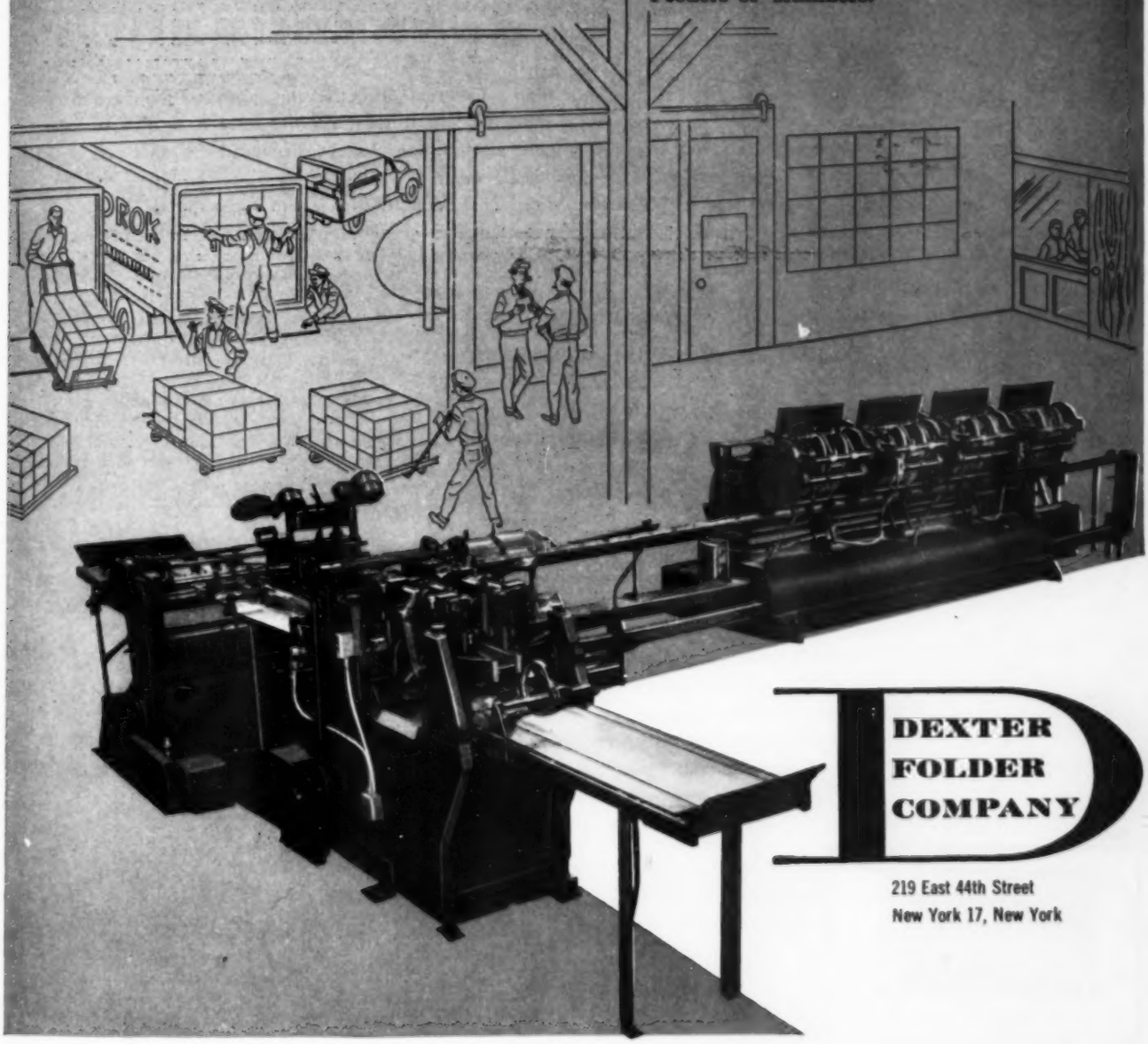
and Trimmed Booklets

THE MC CAIN-CHRISTENSEN COMBINATION

In one *completely automatic* operation the McCain Signature Feeder, the Christensen Gang Stitcher, and the McCain Trimmer will produce finished books in sizes up to 12x18" and up to ½" thick. And the machine can be furnished to feed signatures *with* or *without* gripper lap.

Here is the bindery combination that contains all of the factors which result in consistently high output. High productive speeds, positive control during feeding and stitching, exact accuracy in trimming, unmatched dependability ...all combine to assure low maintenance, high production performance.

Contact your nearest Dexter representative for an in-plant demonstration, or for complete details on McCain Feeders or Trimmers.



DEXTER FOLDER COMPANY

219 East 44th Street
New York 17, New York

UNCLE MAT says:

"I AIN'T NO EYE DOCTOR, BUT ...I do know linecasting!"

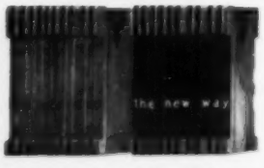
And in composing rooms where Matrix Contrast processes the matrices, the machine operators enjoy their work more, complain less of eyestrain and fatigue, and make an average of ⅓ fewer *errors in original composition*. Ask your controller what a saving like this means to costs in the composing room!

I guess you feel the same way I do about statistics — but when the U. S. Public Health Service makes a survey of defective vision in different age groups, and comes up with *these* figures, there must be some truth in them . . .

Age Group	*% With Defective Vision*
Under 20 years	23%
20 to 30 "	39%
30 to 40 "	48%
40 to 50 "	71%
50 to 60 "	82%
Over 60 "	95%

Now lots of machine operators have eye trouble and don't even know about it. And even those who have corrected it with the proper glasses suffer from headaches and eyestrain and fatigue. As a result they make *unnecessary* mistakes in composition, when matrices with low-visibility reference marks are used. And the last hour of the shift, when the load is heaviest, is when operator fatigue is greatest!

This is where Matrix Contrast comes in . . . when your reference marks are maintained by Matrix Contrast, you save on correction time, production time, and lost time . . . and what's more, you have a happier crew of typesetters. Let us know how many machines you operate, and we'll be glad to give you a free estimate for treating and maintaining your matrix fonts in black-and-white or colors. No obligation of course.



Copyright 1957, Matrix Contrast Corporation

MATRIX CONTRAST SERVICE

MATRIX CONTRAST CORPORATION

154 West 14th Street, New York 11, N. Y.
326 W. Madison Street, Chicago 6, Ill.
1105 Trenton Street, Los Angeles 15, Calif.

PRINTING
EQUIPMENT
Engineer
February 1957

Automated Equipment For Type Composition

Used for directory, catalog and variable list platemaking

By ADAM HENRI REISER

Recently a group of executives in the fields of banking, investments, metals and other forms of business assembled equipment, unorthodox to the printing industry, to provide cold type composition and from that, negatives or positives on film for use in platemaking.

In business in New York, N.Y., as The Merrywell Corporation, this firm provides service for publishers of directories, catalogs, and commercial listing services.

The major items of equipment incorporated in this operation consist of proportional letter spacing, equi-distant line length electric typewriters with tape punching mechanism; automatic typewriter-like reproducing machines (operated by the punched tape) which type cards bearing the type matter; and a Listomatic camera, which produces the type matter in composed form automatically on film at amazing speed.

The negatives or positives so produced are used for making press plates for offset printing. Letterpress plates may also be made from the negatives. The service rendered by the firm is called the Merrywell System.

You may ask: What makes this venture unique or so different from others?

Well, for one thing, in most installations work is adapted to the machine upon which it is to be produced, whereas here we see machines, either new or existing, adapted or modified to handle a specific type of work. With the help of the manufacturer of these IBM, Commercial Controls, or Standard Register machines, Merrywell engineers have achieved a great degree of automation.

Introduction of this new method may portend far-reaching and revolutionary developments in the printing industry. Embodied in this change is the implication of a partial revolution in the printing industry labor structure.

Envisioned in this aggregation of machines is a ravenous appetite —a tremendous capacity for work. The actual figure, guessed at with the automatic and semi-automatic machinery being installed—even though the figures are based on present production, and staggering though they seem—appears to be entirely inadequate.

Briefly reviewed, the Merrywell enterprise is an effort to supplant

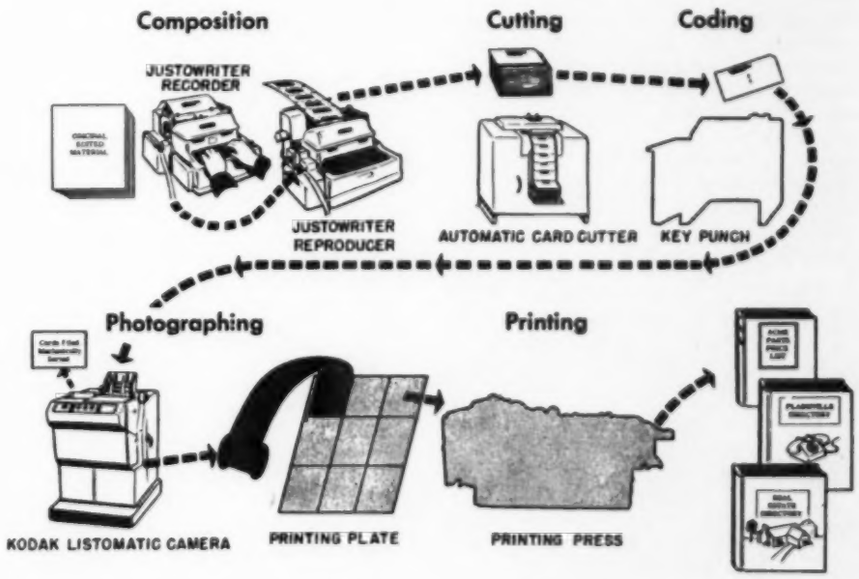


Fig. 1—This chart reproduced by permission of Commercial Controls Corp., illustrates flow of directory, catalog or variable listing copy through the Merrywell System plant. It can be seen that typewriter operation, mechanics, photography and photomechanical operations, most of which are automatic, enter into rapid production of printed products.

Fig. 2—Shown here is a battery of single platen and roll fed IBM electric typewriters with Justowriter tape punching mechanism. Operator (center second row) is typing lines on continuous card strip. This strip later will be run through an automatic die cutting machine. After punch coding, the cards are ready to be run through the Listomatic Camera.

hot metal composition with the typewriter-like method. It operates in a field that is at both times friendly to the introduction and treacherous in its character. It can be called treacherous because in the directory, catalogue or listing category of work, numerous changes are called for almost as soon as a list is drawn up. These changes can prove embarrassing in that the constant changes may add many hours of extra work, the sum always increasing with the length of time consumed in printing.

However, the field is friendly to this venture because of all existing methods, the speedy production inherent in this system will reduce changes to be made while in production. The claim that composition time is reduced by as much as 75% and that changes are comparatively easy to make should provide the reader with figures for the aforesaid contentions.

At present, four main pieces of equipment are employed at Merrywell;

(1.) The IBM typewriter with proportional spacing special platens for single cards, or for continuous form feed equipment.

(2.) The Justowriter Recorder, a machine which punches a tape with all the information keyboarded by the operator in addition to automatically justifying each line left and right.

(3.) The Justowriter Reproducer, a machine which automatically transcribes the tape to the cards used in the photographic stage.

(4.) A Listomatic Camera, manufactured by the Eastman Kodak Co. This machine automatically spaces and photographs the material from the card originals.

In addition, there are four other machines used to complete the work. A key puncher or coder; a collator; a sorter and die cutter—all needed to prepare the cards for the camera.

Uniform Cards For Original Copy

It should be noted that a standard sized card is used for the final camera copy. The card may start in a continuous form, each card measuring 3½ in. by 8½ in. in the form. When the cards have been die cut into their individual form ready for the camera, each card measures 3¼ in. by 7⅜ in. with the upper right corner cut off diagonally. Each card bears some part of the job. It may contain one, two or three lines of the text or copy or even some part of a design. This may be printed on the card, drawn or typed on it in the proper position and proportion so the camera can automatically photograph it in the correct final position and size. Five different type faces are available in the typewriters employed for this typing. The fact, coupled with the reduction feature incorporated in the camera action, accounts for approx. 50 kinds and sizes of type faces.

Type bars bearing special symbols have been installed on the present typewriters as required. Further, any tabulating machine may be used in the process. The Recorder and Reproducer with their justification adjuncts are especially necessary in the process for the proper preparation of the cards used as copy in the system.

Cards Are Coded

In addition to the text typed on them, the cards may carry any kind of information keyed to them in the form of holes or slots punched into them. These keys or codes act as detectives for sorting or collating the cards by machine. The camera, too, uses these keys to obtain the spacing or other instructions necessary to shoot the copy as wanted. The keys or slots could indicate whether one, two or three lines of composition are contained on the card.

Coding could also indicate many other things. Geographical, alphabetical or any other classification may be transmitted through these key holes. They could tell the camera to shoot any spacing from 3 lines to the inch up to 14 lines to the inch.

Fig. 3—Punched tape is being run through Justowriter Reproducer. This machine automatically types the one, two or three line matter on continuous strip stock which is later run through the automatic die cutting machine to proper size card as shown in Fig. 4. Tape is being examined which has previously been punched in justified line form on one of the recording (typewriter) machines shown in Fig. 2.

Once the cards are typed on the continuous form, the die cutting machine cuts them to the proper size. Following the cutting and proper keying, the cards are then fed through collator and sorter and put into their proper sequence for the camera.

Copy Preparation Important

A great deal depends upon the way the customer presents his copy. The more clear the instructions are on the original copy, the easier will it be to translate it to production by the operator who types the listings.

The Merrywell System stresses service more than any single feature of its program. Engineers of the company sit in with the customer, analyze the work requirements and give their advice. This is a primary part of their service. Through this analysis, the customer saves time and money.

Following analysis and proper job preparation, the job is routed through the system, the machines doing the work. One of the important elements of the system concerns the reduction of steps in reorders. A special type of fireproof filing cabinet is used for the storage of cards for future use. Corrections in future listings can be inserted for incorrect ones by pulling out the wrong ones by hand, the replacements being inserted in a like manner.

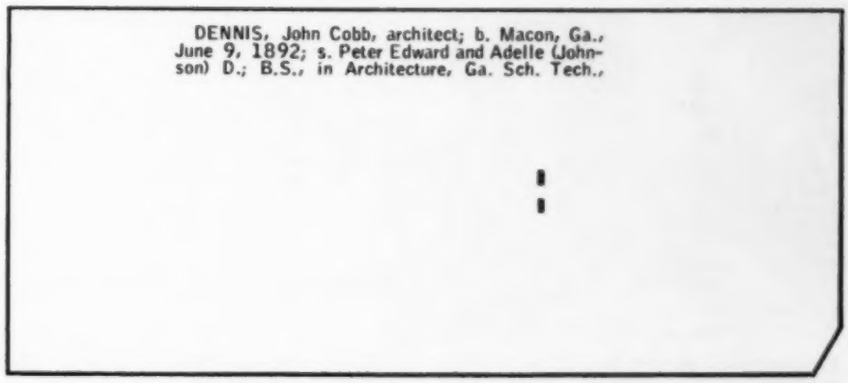


Fig. 4—Miniature reproduction of die cut card used in the Merrywell System of producing directories, catalogs and variable listings. Original size of white card is 7⅜ in. wide by 3¼ in. high by approx. 0.007 in. thick. After typing on a continuous strip, the cards are die cut in a machine at 100 per min. The hole or holes more nearly in the center of the card "tell" the Listomatic Camera how many lines of type are to be photographed on the film. That is, in the case of a single type line there is no code hole; for two lines of type there is one code hole, and for three lines of type there are two code holes.

The salient feature of the system lies in the speed of operation, once the system is set up and the proofs have been OKd by the customer. Jobs formerly taking six weeks to produce are now said to be finished in one week. Negatives or positives can be produced for any of the reproductive processes.

John G. Prout, on the board of directors of the corporation and responsible for the development of much of the machines and methods, insists on continuous research in conjunction with other organizations in material and equipment to improve on the system's own processes. To that end, he sees this as a beginning of an era in which similar machines will automatically type and justify from rolls any kind of text for the reproduction processes.

Fig. 5—John G. Prout, vice president of Merrywell Corporation, stands beside the Listomatic Camera. This machine is called the heart of the Merrywell System. It will photograph automatically one, two or three line cards at the rate of 230 per min. The camera can be adjusted to photograph type lines from same size down to 50% reduction. The resulting exposed film is developed and stripped into page makeup for offset or photoengraved printing plates.

Tight-loose Line Device Functions on TTS Machines

An overset (tight) and underset (loose) matrix line device for automatically stopping a TTS operated linecasting machine has been devolped by Charles E. (Chuck) Griffith, machinist, Marion (O.) *Star*. D. J. Raridan, executive editor of Brush-Moore Newspapers, Inc., Canton, O., tells about the device in the December 15 issue of *The Typocycle* (Brush-Moore's house organ).

The device functions when (1) Tape operator has overset a line; (2) In case the tape operator punches the tape for an underset (loose) line; (3) When matrices (such as lower case *e*) do not drop from the magazine; (4) When a channel of matrices "runs away" or drops continuously; (5) When spacebands do not drop into the assembler.

In case of an overset or underset matrix line on TTS operated linecasting machines, the Griffith device will function to prevent the assembling elevator being raised to the delivery slide. A shoe affixed to the assembler slide and a Micro-Switch function to lock the assembling elevator. The switch is mounted adjustably on the aluminum block fastened to the face plate of the machine. In this picture, the device has been applied to a Model 14 Linotype at the Marion (O.) *Star*.

Griffith has developed modified devices for Comet and older linecasting machine operation. The device, in the case of the *Star*, functions both on 11½ and 16 pica measures which are the line widths used for news and editorial makeup on Brush-Moore newspapers.

Raridan discusses the subject by saying that Griffith has put the closed circuit principle to work.

The device on the Linotype Comet attachment consists primarily of a metal shoe or dog mounted on the bottom of the assembler slide and a Micro-Switch. The switch is mounted on the machine face plate below the shoe and to the left (10 picas distance for 11½ pica measure). The shoe is fixedly mounted on the slide but the switch is fastened in a ¼ in. wide slot in the flock and can be

(Continued on Page 85)

Employer-Employee Relations—A fine example of employer-employee relations has been revealed with the announcement of the closing of the letterpress printing department of The Ohio Match Co., Wadsworth, O. This change in production meant the release of the employees of that department. The company conducted its own telephone campaign in Akron, O., informing printers of the employees that were available. The company also employed the Graphic Arts Employment Service, Cincinnati, O., to help place the remaining employees. Shown is Miss Helen M. Winters, manager of the Graphic Arts Employment Service, interviewing Anthony Bordac, compositor.

Equipment Sales and Installations

Reports

Lake Erie and Chemco Installation

An 800 T. Lake Erie Engineering Corp. direct pressure mat molding machine and a Chemco Photoproducts Co. powderless etching machine are now in operation at the Sacramento (Calif.) *Bee*. The molding machine is used for hot molding of color pages, picture and social pages and will be used for cold molding black and white ROP pages as well. The etching unit is being used for both editorial and commercial work.

•

Goss Installation

The Sunbury (Pa.) *Daily Item* has ordered an additional unit for its twinned Goss Dek-A-Tube presses, installed in 1953. Installation will increase press capacity from 32 pages to 36 pages. Circulation of the evening *Daily Item* is almost 20,000. H. H. Haddon is president and editor of the paper. B. A. Beck is general manager, and Joseph Kramer is pressroom foreman.

A pioneer in ROP color printing by medium-size newspapers, the Redwood City (Calif.) *Tribune* has ordered two units and two color cylinders to be added to its 16 page Goss Unitube press, manufactured by The Goss Printing Press Co. This will increase its capacity to 24 pages. The *Tribune* is an evening daily with a circulation of more than 18,000. Albert E. Forrest is mechanical superintendent and Charles Huttmann is pressroom foreman.

•

Mergenthaler Linotype

The Moline (Ill.) *Daily Dispatch* has changed to 8 pt. Linotype Corona, manufactured by Mergenthaler Linotype Co., and has increased slug size from 9 pt. to 9¼ pt. Column measure and page size remain the same. The body face change was made in November.

The Cleveland *Press* has changed to a larger body face, Mergenthaler Linotype Co.'s 9 pt. Corona. Norman Shaw, associate editor of the *Press*, said that many readers have written congratulations on the improved appearance.

The Washington (D. C.) *Post* and *Times Herald* has installed six additional Linotypes, it was announced by Production Mgr. Harry Eybers. The Linotypes are two Model 29 Blue Streak mixers and four Model 31 Blue Streak machines. All are equipped with Hydraquadders, Thermo-Bio Coolers and Mohr Lino-Saws. The 29's are supplied with six-mold disks.

The Junction City (Kan.) *Daily Union* has increased its body type to 8 pt. Linotype Corona and reduced its column width from 12 to 11 picas. The Kansas daily is using the 8 pt. Corona, manufactured by Mergenthaler Linotype Co., on 9 pt. slugs. The *Daily Union* has also added a four unit Goss press with a 16 page capacity.

The Little Rock (Ark.) *Gazette* has changed to a larger body type, 8 pt. Linotype Corona. The newspaper also recently put into operation its two new Model 31 Linotypes equipped with Hydraquadders and Lino-Saws.

Education Emphasis Repeated In Printing Week Observances

Another successful observance of International Printing Week was concluded last month by industry-wide groups in most every city across the country where printing accounts for an important part of industrial growth. Following the pattern established in celebrations of recent years, local committees volunteered time and talents in offering varied programs of interest to all branches of the Graphic Arts. All activity was coordinated under Robert M. Edgar, Neyhart Printing Co., Pittsburgh, appointive International Printing Week chairman of the Intl. Craftsmen's Assoc., sponsors of the observance.

Major emphasis again seemed to be on Graphic Arts education and career opportunities available to young people in printing and its allied fields. Cleveland planners went so far as to establish a year-round program of counseling high school students who show interest in Graphic Arts careers, while in Los Angeles, more than 100 leading Southland printers volunteered to give talks on the Graphic Arts before school and club audiences.

The Week was also marked by events which were different from those performed in past years. In Pittsburgh, a sugar maple tree was planted in one of the parks as a monument to the Graphic Arts industry, while in Milwaukee, a film premiere was held at the Printing Week banquet. The full color sound movie, entitled *Mass Selling—Milwaukee Style*, was produced locally and covers the complete range of Milwaukee Graphic Arts facilities.

New York again came to the forefront of Printing Week activity when it staged cornerstone setting ceremonies for its new $7 million School of Printing. Scheduled for completion early next year, the school will provide classroom, shop and recreational facilities for 2727 students at one time.

Speaking personalities were on the move during Printing Week, also. Headed by Intl. Craftsmen Pres. George Wise, various officials of the association fulfilled speaking assignments in many cities. Main speaker in Chicago was Col. John Slezak, board chairman, Kable Printing Co., Mt. Morris, Ill.; St. Louis featured Dr. John H. Furbay, Trans-World Airlines, on *The shape of Things To Come;* in Cleveland it was Bennet Cerf, publisher, Random House, New York, N. Y.; New York had Bruce Barton, board chairman, Batten, Barton, Durstine & Osborn, New York advertising agency; Milwaukee heard Martin J. Framberger, general manager, American Dairy Assoc., speak on *How Advertising and Selling Cooperate.*

Among the numerous television and radio programs and spot announcements arranged by local committees was a broadcast by A. R. Tommasini, past president, Intl. Craftsmen's Assoc., entitled *Miracles in Print.*

Scholarship awards and contests were popular again in many cities. Boston presented a $500 scholarship to a worthy student towards a college education in printing management; Cleveland gave a one year scholarship to Rochester Institute of Technology; San Jose, Calif., provided awards for the best piece of printing in several classifications; Chicago staged a letterhead contest among high school students; Atlanta held an essay contest in its schools, while San Antonio, Tex., publicized a cover contest.

Displays also played an important part in promoting the week long celebration. Chicago heralded two outstanding exhibits, "The 50 Best Books of the Year" and "The Mystery of the Mail Order Catalog"; in New York, the 15th Exhibition of Printing was on view for four days in a mid-town hotel.

Other events ranged from wreath laying ceremonies to the selection of local Printing Week queens. The observance was also proclaimed by governors and mayors alike. Although many of the reports at presstime were only indicative of the activity in the larger cities, it can be safely concluded that 1957 Printing Week also established a new record over celebrations staged in recent years.

The Camera Records 1957 Printing Week Events

(All names read from left to right)

1—Chicagoans assembled at city hall for the mayor's proclamation signing. Craftsmen Club officers shown are Edward M. Egan, first vice president; Lowell Dummer, president; Walter R. Surgeon, Printing Week chairman; Mayor Richard J. Daley; Steve Sluka, past president; and Frank E. Swanberg, second vice president.

2—Los Angeles beauties who reigned over Printing Week are Miss Etaoin (Wendy Stone) and Miss Shrdlu (Mary Lou Weston). Paper hat crowns are being placed by Gordon T. Matson, Intl. Craftsmen governor, and Dale Magor, Printing Week chairman.

3—Principals in Buffalo's celebration included Bernard V. Malinowski, Printing Week vice chairman; George Luke, president, Local No. 2, Amalgamated Lithographers of America; and Max B. E. Clarkson, president, Printing Industries of Western New York.

4—Governor of Missouri presents signed proclamation to St. Louis Craftsmen. Shown are Joseph Kortum, Printing Week chairman; Michael Imperial, Intl. Craftsmen Eighth District representative; Gov. Phillip M. Donnelly; and Michael Voertman, club president.

5—Pittsburgh Craftsmen planted a tree to start Printing Week program. Shown are J. R. Steck, parks supervisor, and the following Craftsmen: Gene Sabina, Liberty Lithographing Co.; Ben Albitz, Mor-Craft Co.; Carl Kratovel, Printing Dept., Kaufmann's; M. F. McGrew, club president; and Kenneth Chapin, Ketchum, McLeod & Grove Agency.

6—At Cleveland Ad Club Printing Week luncheon, Robert Watts, Ad Club president; William W. Holman, advertising director, *Sports Illustrated*, New York, N. Y.; and George Wise, Intl. Craftsmen president, posed with Cleveland's Miss Printing Week, Marjorie Reid, Creative Art, Inc.

Automatic Web Controls

For High Speed Multicolor Presses

By W. F. HUCK*

**The Huck Company, New York, N. Y.*

Tension control is necessary on any web press to keep the web from breaking or flooding. However, with multicolor work, good color register requires accurate, *constant* tension. The degree of misregister is directly proportional to the web tension variations. Such variations may be the result of general press and paper conditions, acceleration and deceleration, drying, and cooling effects, atmospheric and temperature conditions and so forth. Therefore, to consistently obtain good multicolor products, the tension of the web before and after printing must remain constant. It is also prerequisite for effective web length compensation either by hand or photoelectrically.

In an effort to accomplish this, most modern web presses are equipped with several different types of devices for tension control. Usually, the reels are equipped with an automatic means for measuring tension and controlling the paper feed. Although some of the latest types of unwinding roll tension controls are quite accurate, some of these older units have controls that vary web tension considerably. The obtained tension accuracy will be roughly proportional to the motion of the floating web tension control roller around which the web is wrapped.

Folders or sheet deliveries seldom have any accurate means of controlling tension. Usually the paper is pulled from the press by one or more driven rollers, with fixed ratios, running slightly overspeed. The paper is forced into spots of driving contact with such a roller by several narrow propeller rollers, located on the unprinted margins of the web. Therefore, the driving force applied to the web is quite limited. The entire arrangement depends upon friction because these pulling rollers are not responsive to variations in web tension. The fixed ratio usually is a compromise and subject to experimentation. Later types of multicolor presses have special, delicately adjustable web propelling rollers which are manually controlled to obtain the best tension conditions in the web.

While some manual adjustments may be necessary from time to time, especially during starting periods, once the press has reached a steady production state, these devices usually require no further adjustment. Usually they may be set and left alone (for such a production condition), provided the same printing job is repeated. However, during makeready, starting, and warm-up periods, the web behavior is erratic and register is often difficult to maintain. While accurate manual adjustment of the surface speed of driven rollers is an improvement, it usually requires too much attention of the pressman in order to insure good register.

Recognizing these problems and the need for reliable and simple automatic means to solve them, Huck Company has developed a completely mechanical, automatic variable speed tension control principle called the Tensicon. This principle may be applied to devices which are compact enough to fit in a crowded press, and which will positively drive the web so as to maintain a predetermined tension, at a constant value under all conditions of press operation, speeds, paper, heating, cooling and printing. It will be understood that constant tension thus applied will maintain accurate paper length between all points, except between those where temperature variations in the web may affect its length. In such cases automatic photoelectric control means should be applied to provide automatic compensation. Since such temperature variations are usually slow, accurate electronic controls can easily keep up with these. It should be remembered that the slower correcting photoelectric devices are the most accurate, but that often faster correcting speeds are applied with reduced overall accuracy, in an effort to keep up with fast changing tension variations that exist in many presses.

The author of this article is William F. Huck, president of Huck Company, consulting engineers, New York, N. Y.

These tension variations are eliminated with the Tensicon. The principle of the Huck Tensicon web tension control is based upon the maintenance of balance that exists between the web, the variable speed V belt driving means, and an adjustable spring or fluid pressure force. Instantaneous corrective action in response to the slightest unbalance in these forces causes motion of web controlling or pulling rollers whereby displacement factor X and a velocity factor

$$\frac{dx}{dt}$$

are proportioned for anti-hunting conditions. This, plus hydraulic damping, results in very stable behavior, without detracting from its inherent sensitivity.

The simple basic principle has been applied to various practical tension control devices. The carriage type Tensicon (Figs. 1 and 1a), is usually located before and after the printing units to keep web tension between these points constant under all conditions. The web is wrapped S fashion around a pair of rollers to provide positive pulling contact, without slippage. These rollers, supported in a free moving carriage, are geared together and driven simultaneously. A variable speed V belt and

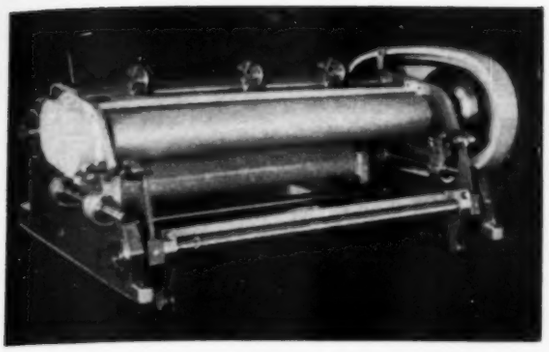


Fig. 1. — Carriage type Tensicon, a mechanical, automatic variable speed paper web tension control for high speed multicolor presses.

pulley arrangement drives both ends of one of these rollers, from the press drive, so that motion of the carriage will cause speed change. The carriage is kept parallel by a cross shaft and balanced against web and belt pull by spring or air piston which can be adjusted to obtain the desired pull of the paper. The air piston has the advantage of accurate and convenient remote control of tension settings. When, for a variety of reasons (such as differences in paper quality, press speed, drying and cooling processes, atmospheric conditions, etc.), the web tends to increase or decrease in length, the balance of forces between web, belt and spring or piston is disturbed, causing the floating carriage to move slightly to neutralize this tendency. This movement also causes a speed variation which tends to restore the original position as well as to restore the balance of forces and thus maintains the predetermined tension. Moving Tensicon to the left causes a decrease in speed while movement to the right increases the speed. This is done by changing the V belt's pitchline diameter on the variable speed pulley.

For instance, should the tension of the web increase, the wrap of the paper around the rollers would pull the carriage to the left in the opposite direction from that of the web. This would cause the V belt (B) to become looser and to assume a slightly larger pitch line diameter on the variable speed pulley (C). Since this pulley is connected through another pulley (A) to the press drive the effect of the increased diameter of the variable speed pulley would be to decrease the speed of the driven rollers and allow the carriage to move to the right again, etc. By such instantaneous correction the web tension does not have a chance to vary but remains constant at all times. When installed in the press before the printing units, the carriage Tensicon feeds the paper into the press by holding it back, *i.e.*, it pulls in opposite direction of travel. When located in the press after the printing units it will be arranged to pull in the same direction. In the former case, the web runs from the reel to the Tensicon at a right angle so that tension variations that occur befor the Tensicon are ignored.

The carriage Tensicon can usually be readily installed on existing equipment. However, most effective is to design it into a new press as integrally functioning members. The principle has also been applied directly to rollstands where the paper may be positively driven by belts which in turn are driven by the variable speed pulley, V belt, press drive combination. The web wraps around an oscillating floating roller, which is directly connected to an idler roller engaging the V belt. When tension variation tends to move the floating web roller, the belt idler causes the V belt to change its tension and to vary the pulley diameter to restore the balance by changing belt speed.

If this type of tension control is used, a carriage Tensicon *before* printing is unnecessary.

Fig. 2—Sidelay holds web edge and moves reel for error.

On large, high speed magazine type presses, requiring near perfect register, an equalizing Tensicon may be built into the cold water roller drive (Fig. 2). Two interconnected floating rollers directly connected to an idler roller acting upon a V belt will sense tension before and after cooling. If the tension becomes unequal the balance shaft will oscillate, varying the speed by the action of the idler roller on the V belt which increases or decreases the pitch line diameter on the variable speed pulley and thus varies the speed. This will equalize the web tension before and after to compensate for tension variations brought on by web shrinkage and expansion during drying and cooling. In high speed folders, requiring precise collating and cutoff, the Tension principle has been reduced to means of compact enough size to apply to each individual ribbon before collating as well as to the collated ribbons as a group, with non-slip nipping rollers.

In the case of newspaper ROP color printing, accurate tension control provided at the rollstand and after printing would maintain good color register for any press speed. As a side benefit, accurate constant tension reduces web breaks and will also keep the web in better side register, provided the web enters the press accurately

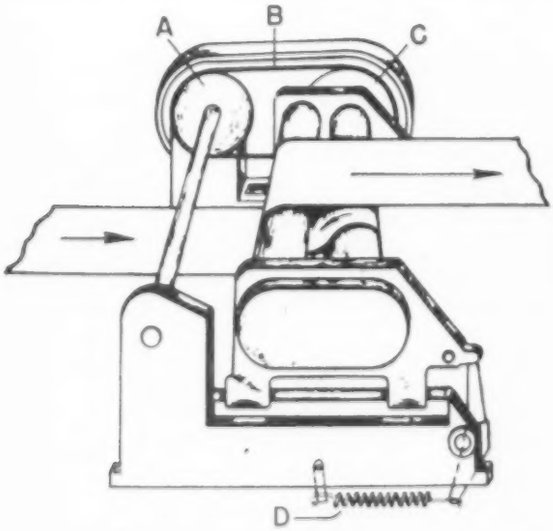
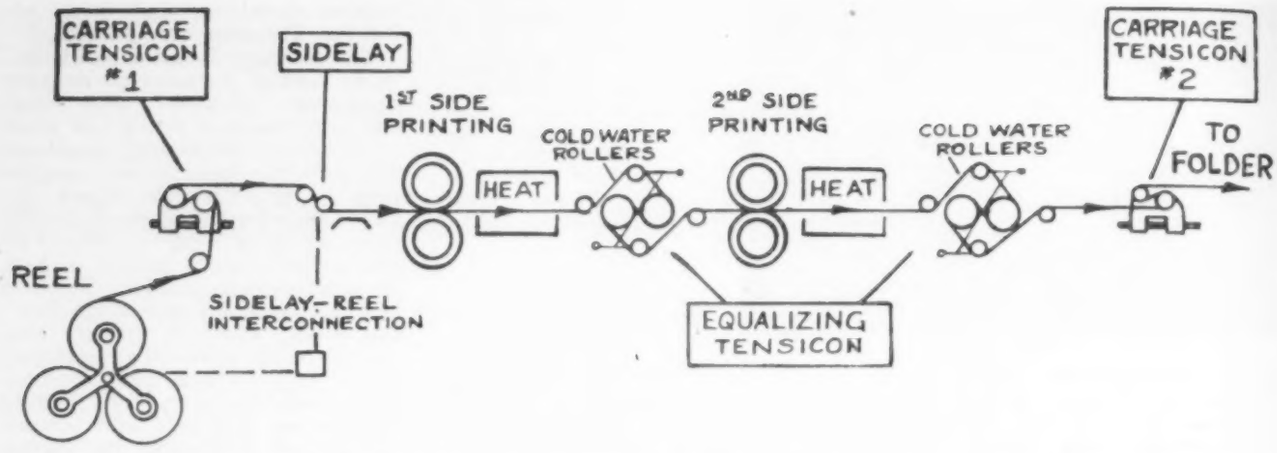


Fig. 1a. — Diagram is representative of component parts of Huck Carriage Type Tensicon. At *A* is shown pulley connected to press drive; at *B* is the V belt; variable speed pulley is shown at *C*; adjustable spring is indicated at *D*.



Carriage Tensicon No. 1 feeds web at Xlbs. Tension automatically maintained.

Sidelay holds web edge at 0.010 in. Moves reel for error of 0.50 in. or more.

Equalizing Tensicons keep tension equal before and after cooling.

Carriage Tensicon No. 2 pulls web from press at X lbs. Tension automatically maintained.

Fig. 2a.—Magazine Press with Huck Automatic Web Controls

aligned. To provide accurate alignment of the web as it enters the printing units, Huck Company has developed a precision control called a Sidelay (Fig. 3). This device also is completely mechanical and simple in operation and maintenance.

The web is supported by rollers, having axial and angular displacement. Air pressure (either house supply or pump), controlled by the edge of the web passing over an orifice adjustably mounted in the path of the web, acts upon a four-way valve. This controls pressure in the piston and, if necessary, moves the web rollers sideways. As long as the edge of the web covers about three-quarters of the sensing hole, the pressure of the air remains constant on both sides of the piston and remains equal. If the web moves sideways in either direction, the escaping air pressure varies and changes the position of the four-way valve thereby increasing the pressure of air on one side of the piston and decreasing it on the other. This moves the correcting rollers (both axially and angularly) to restore the edge of the web to its correct position over the orifice.

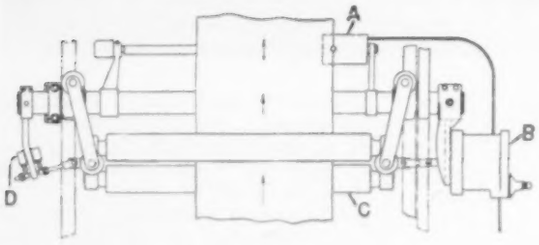


Fig. 3.—Huck Sidelay. Indicated at *A* is the sensing head; *B* is the air piston; correcting rollers are indicated at *C*; at *D* are shown the Micro-switches.

If this Sidelay unit calls for a correction of more than about 0.1 in., microswitches and timing devices will actuate the rollstand to bring the web back into the control range. In the meantime the Sidelay, being highly responsive, will maintain accurate edge location while the heavy paper rolls and support move in coarser steps. If the rollstand is not equipped with means to change its sidewise position by power, the microswitches may control indicator lights to signal the operator of the required roll side corrections.

Good tension and Sidelay controls mean more time available for printing quality control with no interruptions to adjust and coordinate the web controls as conditions change during production runs.

The fact that the web is under constant attention of such devices means higher production speeds, with an absolute minimum of waste because web errors are corrected instantly.

Business Forms Meet

The Rotary Business Forms Section of Printing Industry of America will hold a two day meeting at the Edgewater Beach Hotel in Chicago, Feb. 21-22, 1957. Arrangements are being made by associate supplier members of the Section for visitations to see rotary business forms equipment Feb. 20.

There will be an address on *The Relation of Costs to Profits*, by Frank Somers, Frank R. Somers & Co., Certified Public Accountants, Dayton, O. *How to Use the Ratios in the Rotary Business Forms Industry* will be discussed by Peter Becker, jr., chairman of the PA Committee on Ratio Studies (Arrow Service, Washington, D.C.).

A panel of speakers will discuss *Considerations in Purchasing, Installing and Operating New Equipment.*

Under the heading, *Looking Into the Future,* the RBF Section will investigate: Use of magnetic and fluorescent inks; a new letterpress printing plate; the new Nylon printing plate; smoke printing; and a new camera method of platemaking.

Other presentations will be a discussion of *Materials Handling in the Rotary Business Forms Industry* and a talk by Arthur C. Dreschfield of the Chicago Testing Laboratory on *Paper Standards.*

There will be an Executive Session at which new officers and Executive Committee Members of the Section will be elected along with committee and project reports.

Miehle Net Increases 51%—Miehle Printing Press and Mfg. Co. reported 1956 fiscal year (ended Oct. 31) sales of $40,822,950, an increase of 18% over comparable results for the 1955 fiscal year, and earnings after Federal taxes of $3,034,881, an increase of 51% over 1955, President John E. Eddy reported in the company's annual statement to shareowners. Combined figures for Miehle and Dexter Folder Co. for 1955 were: Sales $34,423,479, and earnings $1,995,177. Miehle acquired full ownership of Dexter in February and merged it into the parent company in September.

Run-of-Paper **Color** *For Daily Newspapers*

General considerations, initial conception, participation by all related departments, equipment requirements and the finished product will be discussed progressively

By VERNON R. SPITALERI*
**Research Director, Knight Newspapers, Inc.*

PART IV—THREE VS. FOUR-COLOR PROCESS AND PHOTOGRAPHY

Since photographic techniques play a far more important role in three color than four-color process, it would appear best to discuss three vs. four color first. This subject has been debated often these past six years, and with the steady stream of conflicting information, choice of process is perhaps management's most difficult decision in contemplating a color program. Three-color process as referred to here should not be confused with the Eastman short-run three-color process which is admittedly inferior to four color, although it serves well the purposes for which it is intended. Following are the pros and cons as we see them:

1—*Time (Speed)*—When using three color effectively, a set of process plates can be produced easily in one-third the time required for a comparable set of conventional four-color plates. This is particularly important editorially in covering live news in color.

2—*Economics*—Our experience has shown we can consistently produce comparable process plates from the same original material in three color for 25% to 30% of the cost of four-color plates.

3—*Quality*—Here perhaps is the biggest area of differing opinions. Although we could not say this three years ago, we can now say unequivocally that with the latest developments in three-color techniques we cannot only produce comparable quality but in many instances superior quality. The limitations of news color inks and newsprint are dealt with easier in three color. There are occasional subjects where a light ghost black strengthens detail but these subjects are the exception.

4—*Personnel*—Since three color is comparatively new, invariably you will have to train your own photo and engraving personnel. In approaching four color, although the labor pool for experienced process engravers is severely limited, nevertheless, they are available. However, training of personnel for three-color work can be accomplished in considerably less time.

5—*Equipment*—To produce effective three color consistently, you should have a well-equipped color photo lab, including instruments such as an analyst, separation printers, color enlarger, densitometer, etc.

6—*Deadlines*—When using three color on full or partial pages, the plates can be molded, cast, routed, nickeled, and set up in the pressroom well in advance of edition time. The black plate can be han-

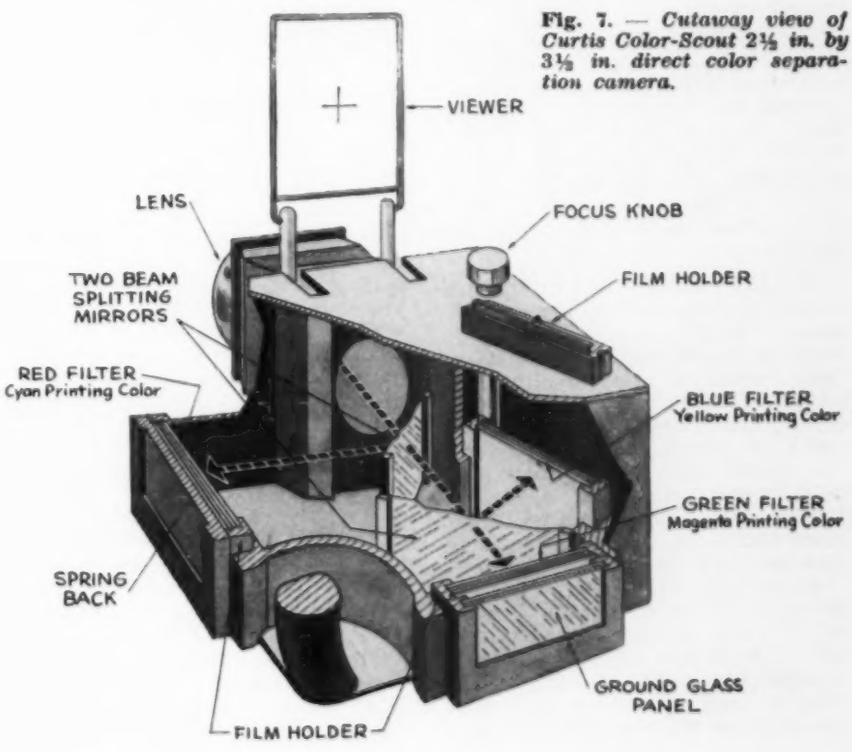


Fig. 7. — *Cutaway view of Curtis Color-Scout 2½ in. by 3½ in. direct color separation camera.*

dled virtually on the normal black-and-white deadline which is particularly important in handling food copy, etc. In addition, key pages, such as page 1, can carry full color and yet maintain necessary flexibility for editorial make-overs all through the run without disturbing the color. To accomplish the same flexibility in four color would involve additional equipment and manning in the pressroom to permit running two black plates.

7—*Double Printing*—Expensive double printing can be avoided by overprinting the separate black plate.

8 — *Engraving Equipment* — Of importance to the smaller newspaper, use of three color permits using a conventional black-and-white engraving camera to produce screened separation negatives from the photographic color separation prints.

9—*Hand Work*—We have finally developed our three-color techniques to the point where we have not just minimized but completely eliminated staging and re-etching. This is an important quality consideration since hand work of this nature is attended by loss of detail in color, particularly in the all-important middletone ranges.

10—*Screen Angles*—Three-color permits 30 deg. separation of screen angles which reduces screen pattern problems and aids in proper ink trapping on the press.

11 — *Presswork* — Register and ink trapping problems are minimized with three-color. Cleaner, brighter color effects are possible since black tends to deaden and darken colors.

12—*General*—Perhaps the most serious limitation to three-color is that sound techniques and stringent controls are required all along the line. Even comparatively minor errors produce a poor result whereas in four-color process the black plate is a convenient crutch to cover up errors made at any stage of the process.

It is interesting to note that *Life* magazine, despite its advantages of superior quality stock and inks, indicate in its process color specifications recommendations such as the following; "The very best results are obtained when one or more of the four colors can be eliminated. . . . Elimination of one color is a definite advantage in the reproduction of many subjects. This three-color technique facilitates register and reduces trapping problems. Consequently the printed product gains in luster and detail. None of the color intensity of the original copy is lost because, percentagewise, the same total amount of color is used." For newspaper purposes, since we are seriously limited in the amount of color that can be carried, more brilliant results can be achieved in three color since all of the available weight can be carried in color without making room for black. Quoting further from *Life*: "Three-color reproduction provides the engraver with greater flexibility in avoiding ink pattern. Screen angles are 30 deg. apart."

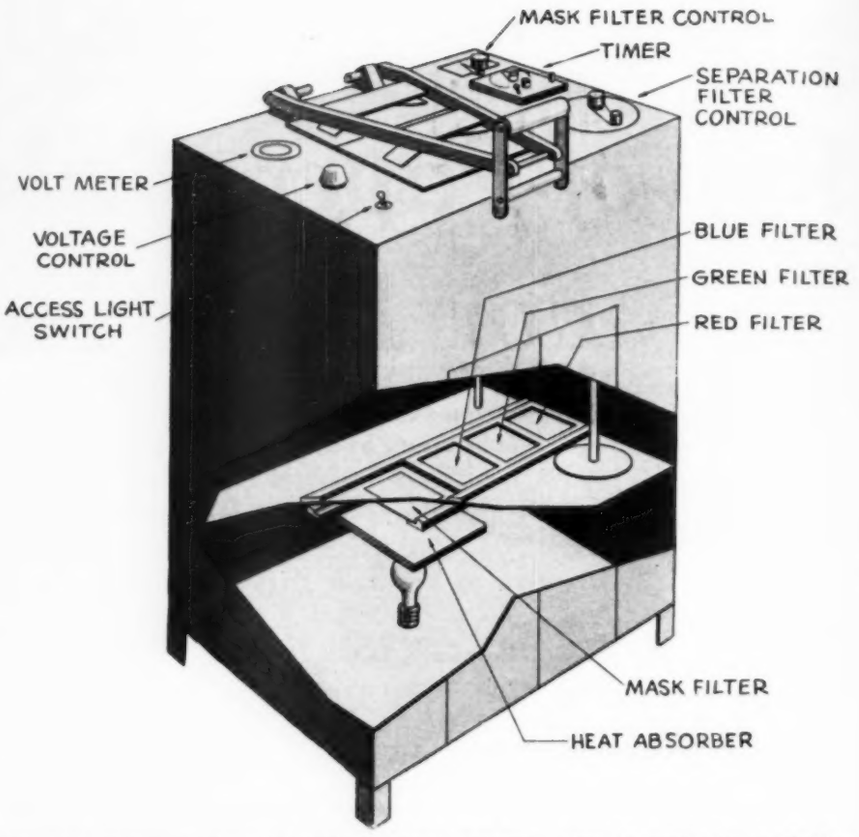


Fig. 8.—*Cutaway view of Curtis Contact Printer. Can be used for producing contact color separation negatives up to* 10 *in. by* 12 *in.*

Photography

Many volumes could be written on the subject of good color photography for Graphic Arts reproduction, but space limitations here will permit covering only the barest high spots. Perhaps the most serious photographic problem involves converting a good black-and-white news photographer to a color man. In many respects, the principles of color photography are quite different and even diametrically opposed to comparable principles in black-and-white. Color work also demands considerably more care, not only in shooting, but in processing, and this is frequently difficult for the typical slam-bang news photographer to achieve.

Lighting

Perhaps the most important difference between black-and-white and color photography involves lighting and this subject is in fact the most important single factor in successful reproduction of color transparencies.

All subjects should be so illuminated that the ratio of lighting does not exceed 3 to 1. In other words, if a photo of your model is taken outdoors in bright sunlight, the side of the face that is illuminated by direct sunlight may have 900 foot candles of light and the shadow only 100 foot candles. This is a ratio of 9 to 1. Some auxiliary lighting such as reflectors, lights, flash bulbs, or strobs, must be used to balance the light so that the ratio does not exceed 3 to 1.

It is generally not advisable to mix different colored light sources such as flash bulbs and strob, or daylight and flash, or any of them with tungsten illumination without making full allowances for color shift that will take place due to variations in color temperature of the illuminants. It is essential that the type of film being used is balanced with its proper light source or that the lens is properly filtered to insure accurate recording of the original colors.

Size—Color photographs should be planned as much as possible so that improtant small detail is still large and clear enough to be held throughout the reproduction processes. Most successful newspaper color has made striking use of

large, simple subjects, achieving maximum impact.

Focus—Sharp focus is a must to achieve satisfactory reproduction. Sufficient illumination should be used to obtain the necessary depth of field that will insure sharp reproduction of important subjects.

Color Backgrounds—Large monochrome areas will cause a cast in a transparency or one-shot pictures. Keep the subject away from such backgrounds. In other words, if you are taking a color picture near a bright red brick building, the red reflecting from the building will cause a red cast. Dark subjects with dark backgrounds generally do not reproduce well in ROP color and should be avoided. Sufficient background illumination should be used to prevent unwanted darkness.

Duplicates of original transparencies should be avoided when possible since duplicates usually pick up excessive contrast, lose detail in shadow and high light areas, and are very frequently off color.

All the above principles apply whether the subject is to be reproduced via three or four-color process. From here on we will discuss the photographer's role in a three-color operation.

Photo Equipment for Three Color

One-Shot Camera—The one-shot camera is a boon to newspapers, providing black-and-white separation prints quickly and economically directly on exposure. Light coming through the one lens passes through a "beam splitter" where the light is separated into the basic light primaries—red, green, and blue. These separated light beams then pass through red, green, and blue separation filters which are the complements of the printing colors. (See Fig. 7.)

For example, the blue filter records the yellow, the red filter the blues, and the green filter the reds. Light coming through the lens of the camera hits the first semi-transparent mirror and 32% of the light is reflected to the right, to what is called the top position. The other 68% is transferred into the second mirror where 24% is reflected to the inside portion of the camera. The remaining 44% is transferred into the rear position. Positioning of the filters is determined by the filter factors of the particular film and type and color of light being used.

Lack of depth of field and inability to handle wide angle problems has seriously limited the use of the one-shot camera for newspaper purposes up to now. Dr. Thomas Curtis of Curtis Laboratories, Los Angeles, manufacturer of one-shot cameras, is presently computing a new lens for his one-shot cameras which should impart to the one-shot color camera the speed, flexibility, and depth of field heretofore enjoyed only by miniatures and typical press cameras.

Separation Printers — Both the Curtis Separation Printer (Fig. 8) and Strobo Research's Colorsplitter (Fig. 9) separate colors from photographic transparancies via the contact printing method, making possible rapid and accurate processing of transparency separations.

In addition to making separation negatives from original transparency materials, these printers can also be used for producing the color correction masks and highlight masks where needed to retain prominent bright points. Color correction masks and highlight masks can also be produced for the three separation negatives resulting from one-shot color camera exposures. Curtis also has a separation printer, designed specifically to handle 35 mm., 2¼ in. sq. or 2¼ in. by 3¼ in. transparencies.

Color Analyst—Prior to development of instruments such as the Curtis Color Analyst and related scientific procedures, it was expedient to include a black key plate in full color reproduction principally because precise controls could not be exercised in separating the colors and the black was necessary to compensate for deficiencies in the other three plates. The color analyst, affording an accurate check on color separation results, obviates the need of a black plate.

The color analyst, as illustrated schematically in Figs. 10 and 11, is primarily an optical device employing filters and mirrors to present an image in full color from three black-and-white separation prints or proofs, thus permitting visual inspection of the separations prior to release to the engraving department.

The interaction of pellicle mirrors, front surfaced mirrors, lights and color filters, balanced to the primary colors of the printing inks used, transform the black-and-white prints into a full color image. The pellicle mirrors are in effect membranes which both reflect and transmit light. The proportion between the reflected and transmitted light varies with the filter in order to produce a balanced condition much in the same manner as the Curtis one-shot color camera. The front surfaced mirrors deflect the light from the separations to superimpose the three images into one full color image for visual inspection.

Within the limitations introduced when comparing additive color produced optically with subtractive color produced via inks and paper, the filters and pellicle mirrors are balanced to the hues and strengths of the yellow, red, and blue printing inks employed and the color image resulting corresponds reasonably close to the full color engraver's proof on newsprint. The perfect set of analyst filters which fully compensate for ink and paper errors has yet to be determined and we are not sure that perfection in this regard can be achieved. However, although the instrument is not perfect in this respect, it is an invaluable tool in the three-color process.

Studying the visual result in full color shows the degree of color balance achieved and simple manipulation of light intensity control knobs permits varying the mixtures of color individually to color correct the image optically. A meter for each of the three primaries indicates the exact amount of variation from a normally balanced condition in terms of percentages of exposure time and dot sizes. With this information as a guide, new prints can be produced to bring the separations into proper balance.

Although the prints may be ba-

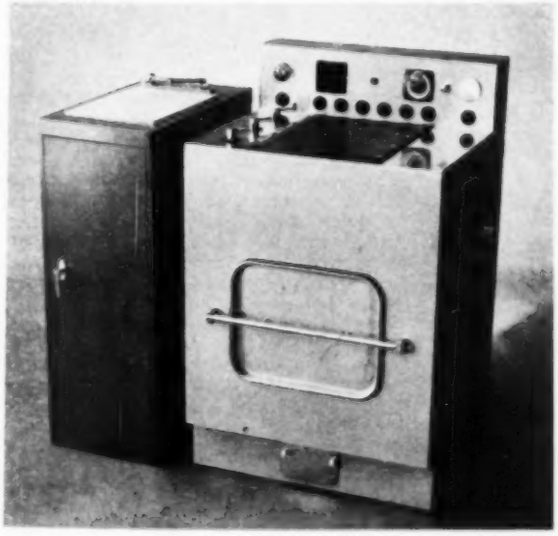


Fig. 9.—*The Roloc Colorsplitter is designed for making separation negatives and color correction masks from color transparencies through the contact printing method. Transparencies from 2¼ in. by 2¼ in. up to 11 in. by 14 in. can be separated.*

sically in balance, the color analyst image may indicate a need for some local correction to emphasize or color correct a portion of the illustration. In this instance, the artist can retouch (straightforward black-and-white retouching technique) any one or all of the separation prints to achieve the desired result and can further check the results of his efforts in the analyst before releasing his prints to the engraver.

Densitometer—A good densitometer is vitally necessary and a transmission and reflection densitometer such as the Welsh Densichron should serve the purpose. Separations must be checked to determine correct balance, and sensitometry can also be used to predetermine proper exposure times for color correction masks as well as to accurately check bromide prints.

Masking—Color Correction

All separation negatives (one-shot, direct, or transparencies) should be masked for color correction and contrast control—approximately 35% on the red and yellow printers, and 20% on the blue printer. Although many different masking systems are in use, no one system successfully meets all the requirements in problems involved with a wide variety of color work passing through the average color lab. Actually, the best place to correct is in producing the original material. Correction methods at best cannot salvage poor originals from excessively heavy tones and under colors.

The application of serious scientific studies into color separation and masking procedures in connection with producing electronic scanners has added new impetus to the work being done to improve color correction procedures. Significant advances can be anticipated in this phase of color work.

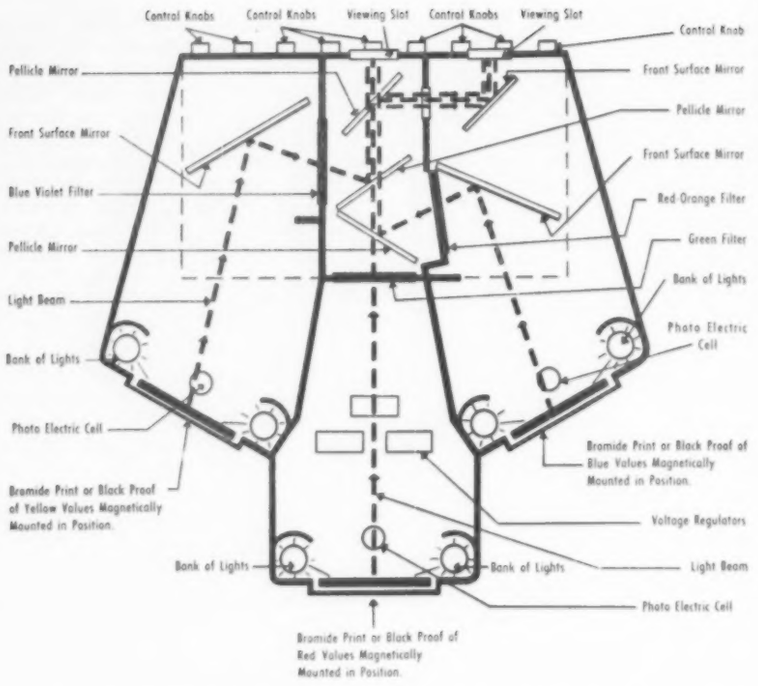


Fig. 10—*Top cross section diagram of Curtis Color Analyst. The analyst primarily is an optical device in which filters and mirrors are employed to present to the viewer an image in full color from three black and white separation prints or proofs, prior to release to the photoengraving department.*

Color Balance and Unbalance

Imperfect tri-color inks and color factors in newsprint make an unbalance of color necessary to print the range of neutral grays and blacks. One approach to this problem involves unbalancing the separation prints during the printing and enlarging stage on the order of 100% blue, 80% red, and 70% yellow. After considerable experimentation we have discarded this theory and are now producing fully balanced photographic prints in the photo lab and doing all necessary distorting in the engraving camera. (A detailed discussion of our distortion of gray scales will be carried in Part V on engraving.)

Correction via Retouching

Application of conventional black-and-white retouching techniques based on a knowledge of color balance is an important factor in three-color process. It is at this point that a competent artist by retouching the separation prints accomplishes with far more accuracy and dependability the equivalent of laborious staging and re-etching and color proofing. With the aid of the Analyst you can quickly see the results of the local correction and further alter to suit before releasing to the engraver.

(In Part V will be covered all phases of color engraving.)

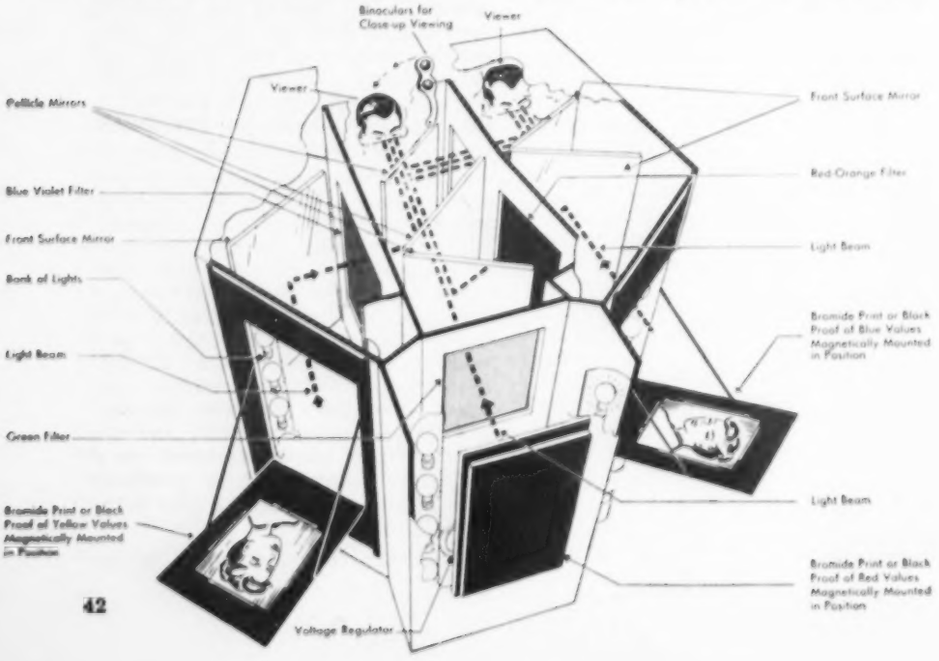

Binoculars for Close-up Viewing
Viewer
Viewer
Pellicle Mirrors
Blue Violet Filter
Front Surface Mirror
Bank of Lights
Light Beam
Green Filter
Bromide Print or Black Proof of Yellow Values Magnetically Mounted in Position
Voltage Regulator
Front Surface Mirror
Red-Orange Filter
Light Beam
Bromide Print or Black Proof of Blue Values Magnetically Mounted in Position
Light Beam
Bromide Print or Black Proof of Red Values Magnetically Mounted in Position

Fig. 11—*Perspective view of Curtis Color Analyst. The viewer studies the visual result in full color. He sees the degree of color balance achieved. Manipulation of light intensity control knobs permits varying the mixtures of color individually to correct the image optically. A meter for each of the three primaries indicates the exact amount of variation from a normally balanced condition in terms of percentages of exposure time and dot sizes. With this information as a guide, new prints can be produced after retouching to bring the separations into proper balance.*

Rotary Air Pump for V-50 Press

Elimination of the possibility of oil getting into the air stream on a press and other printing machinery and hence onto paper, is one of the chief design features claimed for a new rotary air pump installed on the improved Miehle V-50 Vertical letterpress. The unit, according to claims, also enables the V-50 to print heavier paper stock at full speed and virtually eliminates air and vacuum pump maintenance. Dexter Folder Co. calls it the Conde pump.

The pump (Fig. 1) is designed with a cylindrical rotor which is eccentrically mounted within a cylindrical housing, thus forming a crescent-shaped space between it and the housing. This space is divided into four compartments by sliding vanes assembled in slots in the rotor. During rotation centrifugal force holds these vanes against the housing wall and, due to the eccentric mounting of the rotor, the compartments become progressively larger and smaller. Compartments on the discharge side become smaller and air is forced into less space, or compressed. The expansive force of the air as it leaves the pump, and/or the partical vacuum formed as air is drawn into the pump, is then used to perform useful work.

The Conde unit is also designed with a minimum number of parts which require lubrication. The rotor-shaft bearings are of the sealed life time type and are never lubricated in service. To eliminate oiling of the vanes and cylinder housing, graphite vanes are used. To further avoid oil in the air stream, intake air is filtered to take out oil which might be picked up from lubricated portions of the press or other nearby machinery.

Only one moving part, which has a continuous rotary motion, reduces wear on the pump.

The higher pump speeds claimed for the Conde unit result in increased volumes of air handled and provide a greater blast of air for blowing between and separating the top sheets on the feeder pile. This enables feeder separator shoes on the V-50 to pick up and forward up to six-ply cardboard sheets.

Elimination of the pulsating air flow is claimed. This enables full speed operation of the press.

Maintenance of the Conde pump consists of changing the air filter every six months or so, and replacing the graphite vanes when necessary. Cleaning the pump is accomplished by flushing it out with carbon tetrachloride, a job that takes but two or three minutes, according to claims.

Air and vacuum as used on the improved Miehle V-50 press are furnished by two pumps (Figs. 2 and 3). One delivers blast air to three outlets which blow into the top sheets of the feeder pile, separating them for pick-up by the feeder separator shoes.

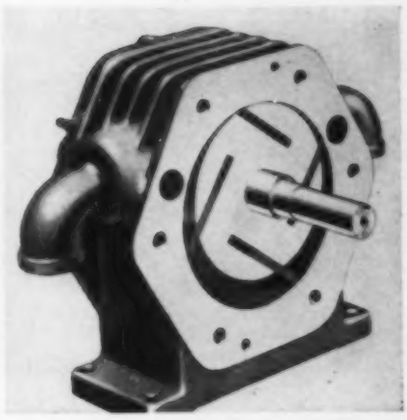


Fig. 1—Dexter-Conde rotary air pump with end plate removed. Features include sealed lifetime bearings and graphite vanes which eliminate oiling.

The other pump supplies both vacuum and pressure. Vacuum is first used by feeder separator shoes to lift unprinted sheets and feed them onto the transfer table. Vacuum holds the sheet in position for registering on the transfer table, suction holes being provided near the front edge for this purpose. Failure to seal the holes releases a piston which trips the press on the downward stroke of the impression cylinder.

A row of vacuum holes is provided in the cylinder gripper bar and when these holes are covered, the cylinder trips to go on impression.

Air is supplied to the cylinder gripper bar as the cylinder gear side journal contacts a slide plate on the gear side press guard at the bottom of its downward stroke. The positive side of the second Conde pump supplies the air which assists in sheet delivery.

The Dexter-Conde pump on the V-50 press supplies approximately 13 in. Hg vacuum and 1½ in. pressure, although these are varied by petcock adjustment, depending upon the stock being printed. Volume supplies ranges to 25 c.f.m.

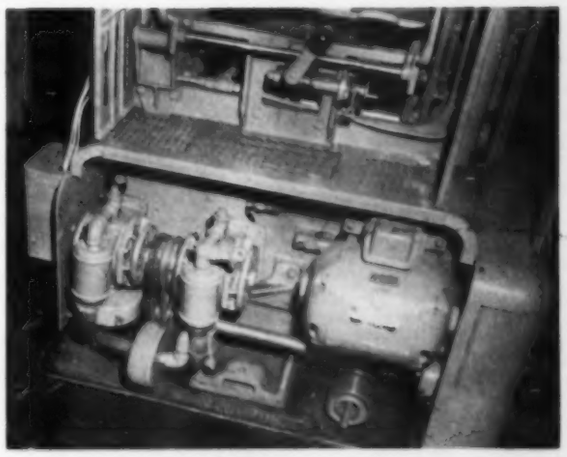


Fig. 2—Air and vacuum requirements of the improved Miehle V-50 Vertical letterpress are furnished by the two Conde rotary pumps shown at left in housing at delivery end of press. One pump delivers blast air to the feeder pile while the other supplies both vacuum and pressure.

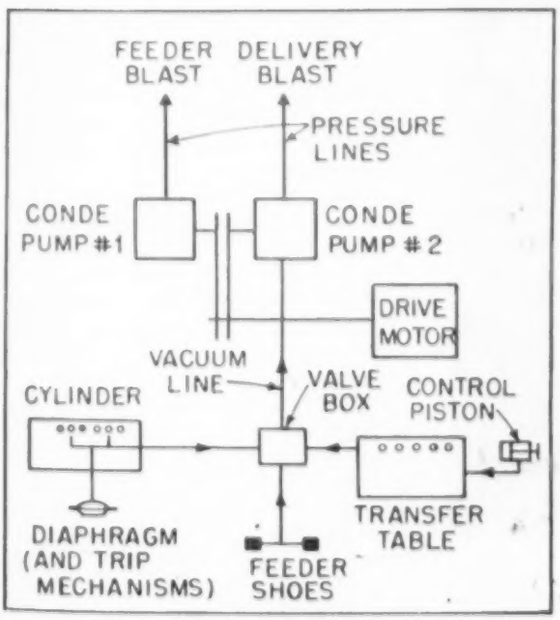


Fig. 3—Schematic diagram of pressure-vacuum system of improved Miehle Vertical press. Air vacuum and pressure are supplied for feeder and delivery functions by two rotary-type pumps. See story for explanatory details.

Some idea of the volume of work executed by Michigan Typesetting Co. can be obtained when it is stated that there are nine Vandercook presses for taking reproduction proofs for customers. In some cases, a rolling galley rack (capacity 100 galleys) is positioned right near the press to facilitate the taking of reproduction proofs. Note the wall cabinet with compartments behind the presses. All of the needed kinds of paper are available in quantity cut to size.

Constant Light in Ample Volume

The plant of the Michigan Typesetting Co., Detroit, is a pleasant place in which to work. Executives of this typographic composition house have provided modern equipment and excellent comfort means to enable production of quality work. The company is housed in its own building at 1959 E. Jefferson Ave., Detroit.

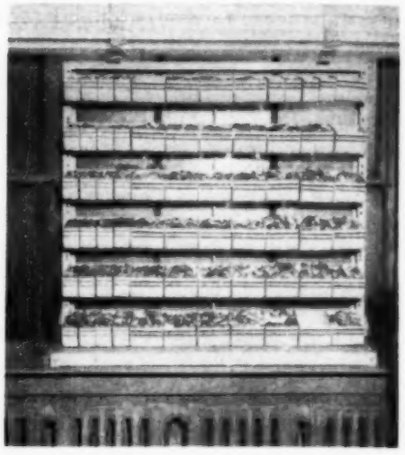
The firm has occupied its location since the early part of 1956. A subsidiary, The Detroit Typesetting Co., is located on the third floor above Michigan Typesetting Co.

Sidney Levison is president of Michigan while his son, Robert Levison, is general manager.

The firm does general typesetting, advertising typography and catalog composition for a number of large manufacturing and advertising firms. Michigan Typesetting Co. operates one of the largest typographic composition houses in the country. There are 160 employees. Approximately 80% of its work is delivered in reproduction proof form to customers. The firm does composition by Monotype, line-slug and individual type. Its annual volume of work is in excess of $1 million.

Floor area in the room is 196 ft. by 70 ft. Some of the flooring is oak parquet and the balance is end grain maple block. The walls are finished in green and the ceiling in white for maximum reflectivity. The whole establishment is air conditioned with 50 T. overall capacity by G. E. units placed in strategic positions. In the Monotype caster room there is a 15 T. unit. The temperature in this room can be reduced by 25 deg. from the temperature which would exist were the room not vented and heat exhausted. The air conditioning unit in the composing room is 30 T. capacity.

In the Michigan Typesetting composing room there is an overall illumination of 115 f. c. The fixtures are fitted with 8 ft. fluorescent tubes positioned 12 ft. from the floor. Slots in the fixture shades permit escape of 25% light going upwardly to the ceiling. Robert Levison explained that the lighting equipment adopted for his plant furnishes from 40% to 60% more shadowless illumination than ordinary fluorescent tubes.

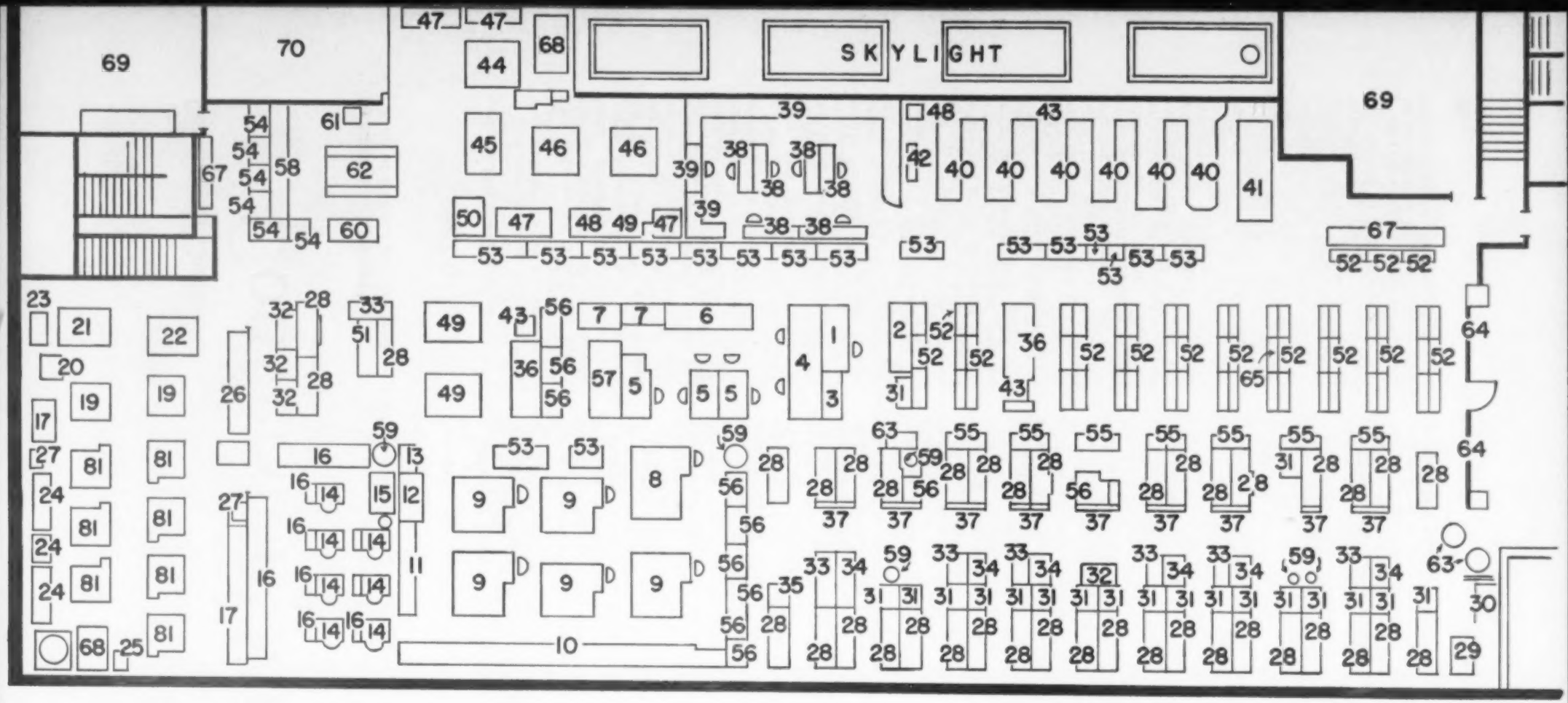


Sitting atop a shelf between each two type cabinets in plant of the Michigan Typesetting Co. is a steel open back space and quad case. Contained within the cabinet on six shelves are 68 boxes. The boxes are arranged by point size. Point sizes range through 6, 8 and 10 pt.; then the odd point sizes such as 7, 9 and 11 pt.; spaces and quads are also provided in point sizes from 12, 14, 18, 24, 30, 36 and 42 pt. type spacing. The spacing material boxes are filled systematically. Quad boxes in the type cases are not used, the compositor reaching directly into the window case for quadding material.

One of the finest Monotype caster rooms in the country. In this room 11 Monotype machines are operated, 9 of which are composition casters. The room is cooled with a 15 T. air conditioning unit. Fumes from the caster pots are withdrawn through efficient ventilating duct system. Room temperature is approximately 25 deg. lower than would be the case without cooling and ventilating system.

It is a well known fact that the lighting standards established some time ago for close seeing tasks are now outmoded. The new standards being investigated presently by the Illuminating Engineering Society, lamp and paint manufacturers and lighting engineers have not yet been established. Yet it is a foregone conclusion there will be a radical revision of illuminating standards for Graphic Arts lighting. From 35 to 50 f. c. no longer seem to satisfy the present day worker.

When it is considered that the firm does type composition in volume for a number of customers, it will be readily understood that it is necessary to maintain ample temporary and permanent type storage. For instance, please refer to accompanying floor plan diagram. It



will be noted that cabinets 52, 53, 54 and 55 are designated galley form storage. There is storage space in these cabinets for 9000 galleys. After the composition has served its purpose it is taken to the basement via freight elevator. If there is no further use for the type matter it is delivered to the remelting department. If the type matter is of a repetitive nature, subject to correction at a later date, it is delivered to a special 15,000 sq. ft. room in the basement. Here are stored an additional 14,000 pages of composition. Each of the 140 racks holds 100 pages.

Floor Plan
Michigan Typesetting Co., Detroit

Supervisory Dept.:
1.—Foreman's Desk
2.—New Cut Files
3.—Flat Worktop

Layout Dept.:
4.—Layout Desk
5.—Markup Desk and Customer Contact Desks
6.—Current Job Tickets
7.—Filing Cabinets

Linecasting Dept.:
8.—Intertype (42 pica)
9.—Intertypes (30 picas)
10.—Magazine Racks
11.—Miscellaneous Matrices
12.—Machinist's Workbench
13.—Grinder

Monotype Dept.:
14.—Monotype Keyboards
15.—Desk
16.—Keyboard Bar Storage and Stopbars
17.—Monotype Matrix Case Cabinets
18.—Monotype Composition Casters
19.—Monotype Sorts Caster
20.—Thompson Type Caster
21.—Monotype Giant Caster
22.—Monotype Material Maker
23.—Type Supply Truck
24.—Work Bench and Parts Cabinets
25.—Drill Press (movable)
26.—Material Storage
27.—Spool Cabinet

Makeup Dept.:
28.—Makeup Frames
29.—Hammond Glider Wood Saw
30.—Wood Working Bench and Cabinet
31.—Flat Top Type Cabinet
32.—Rule Cabinet, Rouse Rotary Miterer on top
33.—Hammond Glider Saws
34.—Lead, Slug and Metal Furniture Cabinets
35.—High Leads and Slugs, Metal Furniture Cabinet
36.—Vandercook No. 320 Reader Proof Press
37.—Display Storage

Proofroom:
38.—Proofreader's Desk
39.—Collating Table and Envelope Cabinet

Reproduction Proof Pressroom:
40.—Vandercook No. 219 Reproduction Proof Presses
41.—Vandercook No. 325 Proof Press
42.—Roller Cabinet
43.—Paper Cabinets

Printing Dept.:
44.—Diamond Paper Cutter
45.—Kluge Press (12 in. by 18 in.)
46.—Miehle Vertical Press
47.—Paper Cabinet
48.—Ink Cabinets
49.—Steel Top Lockup Table
50.—Gordon Press (8 in. by 10 in.)

Lockup Dept.:
49.—Steel Top Lockup Tables
51.—Chase Rack

Storage:
52.—Galley Form Storage (9 in. by 12 in.)
53.—Galley Form Storage (12 in. by 18 in.)
54.—Newspaper Ad Storage
55.—Galley Form Storage (10 in. by 15 in.)
56.—Galley Form Storage (9 in. by 25 in.)

Miscellaneous:
57.—Shipping Bank
58.—Cut File
59.—Dead Metal Dump
60.—Display Type
61.—Coffee Machine
62.—Lunch Table
63.—Space and Quad Storage
64.—Accent and Fraction Cabinet
65.—Ornament Storage
66.—Vending Machine
67.—Clothing
68.—Unit Air Conditioners
69.—Washrooms
70.—Freight Elevator

Letterpress Composition

Conversion Methods

For Offset and Gravure

By ELDON L. THOMPSON*
**Head of Relief Plate Laboratory, Rochester Institute of Technology.*

PART II.

Brightype Method

This new method of conversion was announced about two years ago by Ludlow Typographic Co. The process is based on direct photography of the letterpress form. Proofing is eliminated.

The form is prepared by removing the enamel from all original engravings, then tin plating the metal surfaces with a small electroplating hand brush. This extremely thin coating in no way changes the tone values or interferes with direct printing at a possible later time.

The form which may have both type and halftone elements, is sprayed with a special non-reflecting black lacquer which dries immediately. The printing face is gently polished with a soft rubber eraser to remove the lacquer from the printing face. This is the secret of the excellent quality inherent in this method.

Since only the topmost surfaces are polished by the eraser, rounded serifs and worn shoulders of halftone dots are not touched, and the form as photographed looks like new.

Type worn beyond use for direct printing can be copied by Brightype with remarkable fidelity. To explain this more fully, in direct printing there occurs an ink build-up at the perimeter of each minute element in the form. Together with the pressure required to effect complete transfer of the ink, the sidewalls of type and dots are pressed into the paper surface. In photographing only the topmost surface, the ragged, thickening or spread characteristic of poor printing or worn type is eliminated. Too, since the depth of field in the camera lens is in sharp focus 2 pts. above and below the surface of type height (±0.028 in.) a superior copy results from a form too unlevel to print direct.

Damaged type or scratches can be obliterated by carefully removing the black coating from the damaged area before photographing.

Since the form is not subjected to the rigors of printing, only a minimum amount of justification to insure lifting is required. After the form is prepared, it is slid onto the Brightype camera board, the chase is clamped, and the unit is raised to a vertical position.

A unique system of lighting is employed in this same size camera. It consists of an array of incandescent bulbs rotating around the camera lens. This light source produces sharp, even frontal illumination of the reflecting metal surfaces in the form. This direct light, so near the lens, would offer advantages not possible from conventional lights and placement. This light would not reflect highlights from glossy surfaces or embossed copy and would offer the ultimate in uniformity or absence of light falling off in the corners, hot spots and other common faults.

Considerable flexibility and economy seem to be possible in Brightype, since wrong reading reverse prints or veloxes may be combined with type and plates.

Rather than original engravings, halftone negatives may be prepared by a special Brightype method for inclusion with the form. A less expensive photographic halftone print may be used in place of an engraving. Reversed (white type on a black background) display type can be combined as well.

Direct Image Method

Standard Rate & Data Service, Inc. is licensor of a direct-image method called d-i-Offset. This is based on proofing directly onto a special plate of paper-backed aluminum foil.

The press cylinder is packed using a rubber blanket of 80 durom. hardness. A special transfer ink is then applied to the press, the form is inked, and the impression is made directly onto the plate. The impression is so adjusted as to cause the image to become intaglio approx. 0.003 in., thus assuring complete transfer with a minimum of makeready. After the transfer, the plate is given a conventional desensitizing etch, and gummed.

The plate is next debossed to restore the image areas to the printing plane. A plastic sheet is first clamped to the cylinder of the debosser, and the bottom of the d-i plate is inserted, foil side out, between the cylinder and the plastic sheet. Static electricity on the plastic sheet which overlaps the plate causes both to hug the cylinder without further clamps or tape. As the drum revolves, the plate is scanned by small wheels which exert pressure in a series of overlapping lines, restoring all areas to an even plane. Three minutes is required for debossing, after which the plate is ready for printing.

If long runs are required, or the

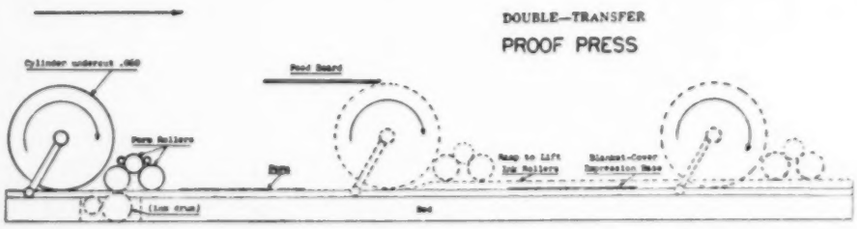
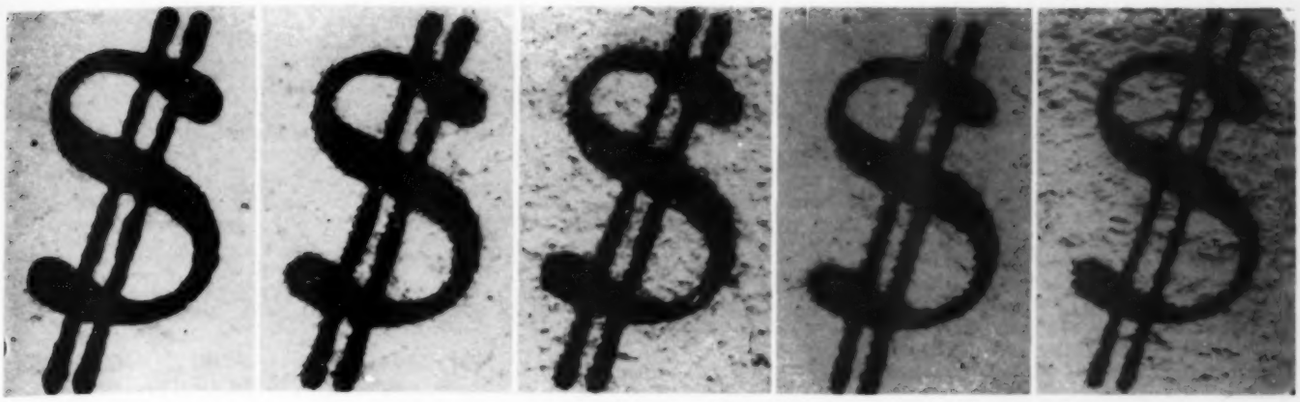


Fig. 3.—*When taking a double-transfer proof, the press cylinder makes two complete revolutions; the same cylinder printing area covering first the form, then the impression base. The impression base serves to laterally reverse the image. Next the cylinder is tripped at the delivery end of the bed and returned to a position midway between form and impression base. The plate is next positioned to grippers, and fed to the delivery end of the press.*



1 Reproduction Proof | 2 Press Sheet Reproduction Proof | 3 Press Sheet Translucent Proof | 4 Press Sheet Brightype | 5 Press Sheet Double-Offset Transfer

Fig. 4.—*With the exception of No. 1 above, showing approx. 30X enlargement from a reproduction proof, other examples were photographed from press sheets printed from four methods of conversion. It is interesting to note that there is a tendency to sharpen (thin) the copy in the double-offset transfer. Other conversions are approximately equal, with loss of detail attributed to offset blanket surface and fibre structure of paper.*

plate contains fine detail, it is desirable to replace the ink image with a more durable lacquer. To apply the lacquer after gum, the plate is washed with naphtha, dried and coated with a conventional platemaking lacquer. The gum serves as a protective stencil against the solvent and lacquer.

Any flat bed cylinder press in good condition, with proper packing, is suitable for making d-i plates and all other proofed conversions described in this article.

The characteristic grain of the d-i plate, the rubber blanket, necessary transfer pressure and debossing suggest this process as best suited to tabular, text, or directory composition.

Translucent Proofs

Translucent proofs may be of excellent quality. For work to be produced same size, a minimum of equipment is needed to produce a negative for platemaking. Technique and requirements are identical to reproduction proofs.

Image opacity is most important, as in transparent proofs. We may ask why a single impression on one side of an acetate sheet would not serve as well: The reason is that greater ink film thickness is possible on the recommended stock than on most transparent materials.

Translucent proofs should be pulled on a special lightweight baryta-coated paper. This stock is made for the photographic industry as the starting point in the manufacture of photographic paper.

The base stock is a special type of alpha cellulose, of wood origin, with 25% to 50% pure rag pulp added for strength. This paper exhibits a marked freedom from fiber structure. The single or double emulsion coating is gelatin and pure precipitated barium sulphate. It is this unique surface that takes substantially more ink than most plastic surfaces, resulting in a more opaque image.

Only a few mills produce this special sheet—it is not normally available from a paper supply house.

Imported stock is available from John G. Mark & Son, 525 Broadway, New York 12, N. Y.

Baryta coated stock is commercially produced by only one mill in this country, the Lee Paper Co. This product is available on order through James White Paper Co., 210 S. Des Plaines St., Chicago 6, Ill.

Light scattering can be minimized and the proof made more translucent by wiping the back of the dried proof with mineral oil. In practice, a photographic contact negative is made from the translucent proof by contact printing in a vacuum frame, using a point source light.

The photographic film is placed emulsion down in contact with black paper on the vacuum frame blanket; this arrangement prevents possible transfer of an oily film from our proof to the photographic emulsion. Or, the inked side of the proof and the film emulsion may face one another if separated by a sheet of thin plastic—if oil was used on the proof.

A practical variation of the described technique consists of proofing onto a rubber blanket as in transparent proofing. The baryta-coated sheet is then positioned coated side down on the feed board, and covered with a thin plastic sheet, which serves to prevent the ink from the form printing on the back of the offset image.

It is possible to pull two or more images in perfect register onto the cylinder blanket to build greater than normal ink film density. The resulting print from this approach is laterally reversed, requiring proper positioning to produce a right reading negative for offset.

By using Autopositive film or chemical reversal, negatives or positives may be produced in the photographic step of all methods of conversion not entirely mechanical, such as the direct image process.

Double-Offset Transfer

This method of conversion (Fig. 3) was developed from a research project on conversions in the Graphic Arts Research Dept. of Rochester Institute of Technology.

Double-offset transfer is an indirect method of proofing onto an offset plate. Conversion is made by proofing directly onto the surface of a rubber blanket-covered proof press cylinder; substituting the form with another rubber-covered type high impression base and transferring the cylinder image onto this second blanket. Next, the offset plate is positioned to the guides and this second (laterally reversed) image offset onto the plate.

There are two obvious advantages in this method. Debossing is unnecessary, and like the direct image process, a minimum of makeready is required because of the resilient blanket, and its tendency to cushion and level small errors in the form. Unlike the direct image process, however, little more than a kiss impression is used on the initial form-to-cylinder transfer.

The key to this method lies in the special ink developed for the process (Conversion Black No. 20) by Homer W. Palmer and Co., 515 N. Halsted St., Chicago 22, Ill. This

ink is high in fatty acids and silicones to repel the gum or coating used to form a protective stencil over the non-printing areas.

Satisfactory blankets for use on both the cylinder and impression base are Goodyear Red, 2 ply, No. 6482, pumiced surface.

This method has been tested on a large Miehle No. 3 flatbed cylinder press to produce plates for our 35 in. ATF web offset press. On this large size, some blanket creep, initially experienced in this 0.040 in. thick blanket, was overcome by laminating the rubber blanket to an offset plate. On some forms, it is desirable to pull two impressions in register onto the cylinder blanket in order to build sufficient ink film thickness.

The preferred plate for use with this method is a pumiced surface on a new, ungrained aluminum plate. Other grains, as well as zinc, may be used.

As mentioned, a blanket-covered impression base is substituted for the letterpress form; a single impression is offset onto this base to laterally reverse the image. Next, the plate is fed through and this impression base image is in turn offset onto the plate. The affinity for press ink exhibited by this thin image is not reliable for actual production. It is necessary to replace this proofing ink with a conventional lacquer. Then the plate is gummed up, dried down, and washed out with turpentine, followed with a brief second application of chloroform (any oil-free solvent) to remove the oily turpentine film. Next, lacquer is applied, followed with a heavy developing ink, and clearing under water, after which the plate is given a conventional desensitizing etch and finally gummed.

In processing a deep etch plate, a less permeable stencil is required before washing out the proof press image. Dichromated gum, or any light sensitive coating may be applied in the same manner as gumming up a plate, followed by exposure to insolublize the protective stencil, and washing out with turpentine, etching, and identical steps as outlined for a surface plate.

In Fig. 3 is shown suggested design for a special proof press to facilitate this conversion method.

Other methods of conversion evaluated, consisted of proofing onto light sensitive photographic paper, film or presensitized offset plates.

In one method, proofing ink served as an opaque mask to a light source in exposing the non-image areas, after which the material was processed to form an image on a presensitized plate. In another approach, using plates, transparent proof press ink served to repel the presensitized plate developer, after which the plate was exposed and further processed.

TABLE I—Process Elements

	Proof	Photography	Plate Exposure	Plate Processing
Double Transfer	X			X
Reproduction Proof	X	X	X	X
Brightype	*	X	X	X
Translucent Proof	X	X	X	X
Direct-Image	X			X

* Time to prepare form roughly equals time to proof.

Proofs were also made on the emulsion of previously exposed, developed and fixed photographic film or paper, the ink serving as a resist in a final bleaching solution to clear the background, thus producing a positive.

A variation tested under darkroom illumination, consisted of proofing on the emulsion of light sensitive film, hypoing to dissolve out the silver halides, rinsing to remove hypo and proof press ink stencil, exposure to light, and finally developing the image to produce a negative.

These latter methods have not been productive of good images but are basically sound and further experiments should produce better results.

Photoengravings and duplicate plates can be converted directly in the camera to form film images by filling the relief areas with powdered magnesium carbonate, briefly inverting the plate over steaming water to pack and secure this chalk, inking the surface to improve contrast, and making a simple camera line exposure.

An Overall Look

Work of satisfactory quality (Fig. 4) can be produced with any of these conversion methods, depending on requirements and on the craftsmanship applied. Only rough comparison of methods is possible because of the differing equipment and circumstances in various plants. The following tables show some of the information that is needed to size up the applicability of the methods in a particular shop.

If we assume that conventional surface plates are to be used, then there seems to be no significant difference in the speed of operation of the four methods. Under average shop conditions the double-offset transfer and direct-image methods would probably be the fastest. If presensitized plates were used, then double-offset transfer might be the slowest method. Presensitized plates cannot be used in the direct-image method.

Explanation of Tables

In Table I are shown the elements required in each method.

In Table I, we would rank the methods according to quality in this order:

Brightype
Translucent Proof
Reproduction Proof
Double-Offset Transfer
Direct-Image

There are three cost factors to be considered: Equipment (Table II), materials (Table III), and labor (Table IV). Since these costs vary from plant to plant (some equipment is already available), they must be figured in the plant where the process will be used. Tables II, III, and IV are

TABLE II—Equipment

	Double Transfer	Translucent Proof	Reproduction Proof	Brightype	Direct Image
Proof Press	$8,500	$8,500	$8,500	$	$8,500
Camera			8,000	11,000	
Vacuum Frame		450	450	450	
Arc Lamp	500	500	500	500	
Darkroom		2,500	2,500	2,500	
Plate Processing	1,000	1,000	1,000	1,000	1,000
Whirler		1,000	1,000	1,000	
Extras				1,000	*
Total	$10,000	$13,950	$21,950	$17,450	$9,500

* $1000 initial installation fee required for debosser; this includes first month's rent, and adequate licensee training.

submitted as a basis for estimating.

Considering all three factors, it is apparent that double-offset transfer and direct-image are the most economical.

Table II should not be used without correcting for equipment already available in the plant. Before comparing net capital outlay for any system, the cost of equipment already available should be subtracted from the various totals. For instance, if you already have camera equipment, the extra expense of equipment for the reproduction proof method over the translucent proof method is not particularly significant.

It is also evident that the basic Brightype equipment (including darkroom) would amount to approximately $14,500.

In Table III is summarized the materials required in the five methods. Figures are approximate for a single 26¼ in. by 35½ in. plate.

Labor costs are difficult for us to estimate, but the summary shown in Table IV provides information from which costs could be determined. Approximate times shown are for production of single plates as described in Table III.

Most trade composition houses now offer reproduction proofs and transparent proofs. Technical aid in considering other methods can be had from manufacturers, consultants, or RIT's Research Department.

(*Concluded*)

TABLE III—Materials

	Plate and Chemicals	Paper	Film and Chemicals
Double-Offset Transfer	$3.00	$	$
Brightype	3.00		2.50
Reproduction Proof	3.00	.25	2.50
Translucent Proof	3.00	.40	2.50
Direct Image	1.90		

TABLE IV—Labor

	Make-ready	Proof-ing	Photog-raphy	Conven-tional Plate-making	Presen-sitized Plate-making	Special Plate-making
Double-Offset Transfer	5 min.	5 min.			*	30 min.
Reproduction Proof	5 min.	3 min.	4 min.	1 hour	20 min.	
Translucent Proof	5 min.	3 min.	4 min.	1 hour	20 min.	
Brightype	7 min.		4 min.	1 hour	20 min.	
Direct Image	5 min.	5 min.				15 min.

* Presensitized plates have not been fully evaluated.

Flexographic Printing

By MR. FLEXOGRAPHY

VII.—KEEP RUN TO RUN STANDARDS SIMPLE

It is the goal of all printers to produce quality printing at a profit. To achieve this, a firm control must be exercised on both quality and cost in equal proportion. If either is allowed uncontrolled latitude, it is certain someone will be dissatisfied and it makes little difference whether it is the printer or his customer. Success can only be built upon mutual satisfaction.

When gauging quality, the foremost requirement is a record system. A complicated setup, requiring a staff of recorders, is definitely not meant—it must be simple, automatic, devoid of all superfluous considerations, handled by as few people as the scope of your plant will allow. It must have the information that many of your men carry around in their heads. It must not be time-consuming — it must be time saving.

This is the seventh in a series of articles by a printing consultant to flexographic printers. Your own printing problems will be answered by writing to Mr. Flexography, in care of Editor, *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13.

Into a 9 in. by 12 in. open side envelope, accumulate the following:

1. Production order, listing all specifications.
2. Customer's print copy.
3. Artwork and etching proofs.
4. Copy of printing plate requisition.
5. Copies of paper and ink requisition.
6. Sample of paper stock.
7. Wet ink evaluation report with samples.
8. Print test sheets and finished print job.
9. Production report.
10. Shipping documents.
11. *All* other pertinent miscellaneous papers.

All papers in the envelope should be dated and bear the production number of the press run. Instruct your suppliers to stencil the same number on *all* paper roll wrappers, ink drums, and printing plate wrappers.

This information is now in your plant somewhere. The principle is to gather it from various file cabinets and someone's memory and centralize the data at one point for all future reference. In this way, more information will be available at a single source.

The only items above which possibly invite further discussion are Nos. 7, 8, and 9.

It is foolhardy ever to pour untested ink into a press fountain. Corrections or major ink adjustments on the press are time-consuming, costly and sometimes impossible. Certainly, any solution to problems then would be made under varying degrees of duress or emergency make-shift methods.

All ink manufacturers can supply a pint production sample from every ink batch made. It can usually be forwarded with the shipment. It is less effort for them than it

(*Continued on Page* 77)

Merrill Passes

Philip Merrill, president of Ludlow Typograph Co., Chicago, passed away Jan. 18. He was taken to a hospital on Jan. 17 for a major stomach operation but failed to rally. Funeral services were held Tuesday, Jan. 22 at Hebblethwaite Funeral Home, Evanston, Ill. He is survived by his wife. Merrill was a director of the National Printing Equipment Assoc.

Great Lakes Executives

Look at Processes

In Newspaper Industry

By MacD. SINCLAIR and EDWARD H. OWEN

The Great Lakes Newspaper Mechanical Conference held at Hotel Statler, Cleveland, Jan. 13-15 was attended by the largest number of production and mechanical executives in conference history. Secretary-treasurer Don Clark reported there were approx. 458 production executives, 299 manufacturer and supplier representatives, with a non-registered attendance of 145 visitors and ladies. Total number of people attending the conference was in excess of 900.

Conference discussions predominately were devoted to some of the newer processes coming into use in newspaper production. Among them were high speed linecasting and engraving methods and processes, ROP color, newsprint handling methods and mailroom mechanization.

The 1958 conference will be held at the Claypool Hotel, Indianapolis, Ind., January 12, 13, 14.

At the Cleveland meeting, equipment and supplier companies engaged 41 exhibit spaces. Company representatives were kept busy discussing their latest products with interested executives.

For list of officers elected, see accompanying picture. Directors selected are Harold Gaddis, composing foreman, Anderson (Ind.) Newspapers, Inc.; Lawrence Brune, press-stereo foreman, Hamilton (O). *Journal-News;* Robert H. Dumke, research co-ordinator, Milwaukee (Wis.) *Journal;* William E. Tookey, stereo foreman, Flint (Mich.) *Journal;* Myron Schecter, mailroom foreman, Detroit *Times;* Cecil Watkins, production manager, Sidney (O.) *Daily News*, immediate past president.

The conference welcome was extended by Wright Bryan, editor, Cleveland *Plain Dealer*. At the dinner and floor show Sunday night, January 13, Louis B. Seltzer, editor, the Cleveland *Press*, was the main speaker. He urged all in the newspaper industry to fit their thinking into modern ideas so newspapers will keep at the head of the communications line.

New officers of Great Lakes Newspaper Mechanical Conference Seated, left to right: Arthur F. Goetz, composing room superintendent, Milwaukee (Wis.) *Sentinel*, second vice president; John E. Innis, stereotype superintendent, Indianapolis *Star News*, president; Cecil Watkins, production manager, Sidney (O.) *Daily News*, immediate past president; Robert C. Nelson, production manager, Detroit *News*, first vice president. Standing: Paul O. Brannon, pressroom superintendent, Cleveland *Press*, third vice president; Ted Gardiner, chief machinist, Indianapolis (Ind.) *Star News*, fourth vice president; Don M. Clark, stereotype superintendent, Grand Rapids (Mich.) *Press*, secretary-treasurer.

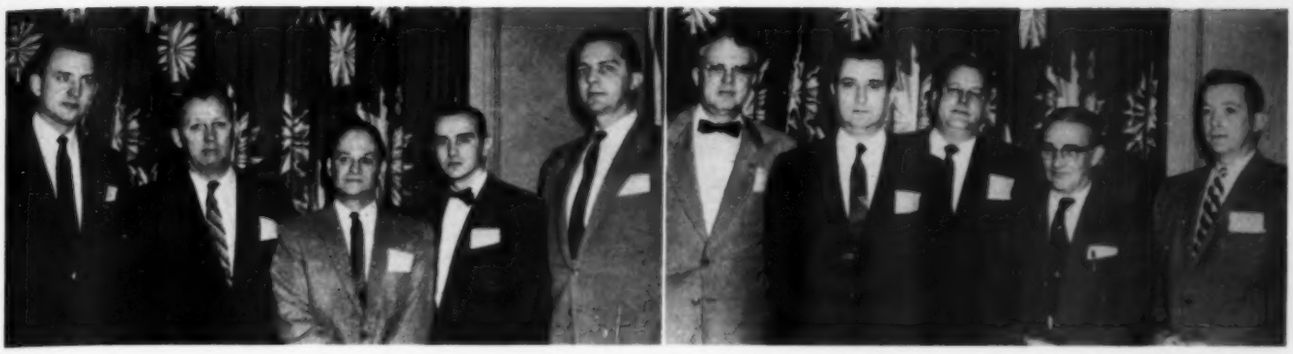
Engravers Talk of Fast Etching

High speed etching machines, metals and processes dominated the discussions held at the engraving session of the Great Lakes Newspaper Mechanical Conference. Presiding at the meeting were John Dalton, engraving superintendent, Indianapolis (Ind.) *Star News*, and Earl Currise, engraving superintendent, South Bend (Ind.) *Tribune*.

The story of how an established magnesium fabricator became interested in the Graphic Arts field and of some of its developments was related by one of the speakers on the engraving program, Edward H. Perkins, vice president, Magplate Div., Brooks & Perkins, Inc. He claimed Magplate is able to supply flat or curved magnesium metal with tolerances of ± 0.0005 in. He also mentioned that B&P is able to supply a precise curve to fit any plate cylinder diameter and also to curve any thickness of metal.

Continuing, Perkins said his company has done experimental work on curving and printing direct from magnesium originals on newspaper presses. He added: "We have been supplying curved saddles 0.375 in. thick

(*Continued on Page* 69)



Engraving session speakers (left to right) were: Edward Perkins, jr., Magplate Div., Brooks & Perkins, Inc.; John Dalton, engraving superintendent, Indianapolis *Star News;* O. A. Walters, engraving superintendent, Cleveland *Press;* Robert Patsko, Imperial Type Metal Co.; Wesley Miller, Master Etching Machine Co.; A. B. Fry, Dow Chemical Co.; Frank Bonner, Rolled Plate Metal Co.; Spilman B. Gibbs, Chemco Photoproducts Co.; Earl Currise, engraving superintendent, South Bend *Tribune;* Norman Bridwell, Jones Graphic Products Co.

Packless Mats and ROP Color Considered by Stereotypers

As if sensing the need for fullest cooperation among the mechanical departments, a goodly number of executives discussed packless stereotype mats, at one of the final sessions of the Great Lakes Mechanical Conference. This was on Tuesday afternoon, January 15, at Hotel Statler, Cleveland. One of the unusual aspects of the meeting was that the audience consisted of a third each stereotype, press and composing room executives. As discussion took place throughout the meeting, it became evident that there was a sincere desire on the part of all to work one with the other for better newspaper printing. Centered on the discussion, of course, was the stereotype plate. Packless mats received considerable attention. Color plate techniques were also discussed as were standards to be employed in each of the mechanical departments.

Opening the session was Pres. Cecil Watkins, production manager, Sidney (O.) *Daily News.* He turned the gavel over to Elmer Watson, assistant stereo superintendent, Forest City Pub. Co., Cleveland. Watson was assisted by Co-chairman William Tookey, stereo superintendent, Flint (Mich.) *Journal.* On the panel were: Royal Rager, stereo superintendent, South Bend (Ind.) *Tribune;* John Innis, stereo superintendent, Indianapolis (Ind.) *Star-News;* Ferd Mier, stereo superintendent, Detroit *Free Press;* J. Edward Johnson, Tenak Products Co.; Frank Stanczak, ANPA Research Laboratories, Easton, Pa.

Mat Pak Progress

Frank Stanczak reviewed progress in the use of Mat Pak during the past year. He mentioned a number of newspapers using the packless mat developed at ANPA Laboratories, Easton, Pa. The saving in mat production, he said, is secured in hand packing time of about 10 man minutes per page. Also included in the saving is elimination of overtime in the stereo and press departments of the papers using the mat.

He quoted from a letter received from C. L. Banker of the Poughkeepsie, (N.Y.) *New Yorker,* (daily circulation 27,000) because there has been some question about the value of a Mat Pak for smaller newspapers. In the letter, Banker reported that on Dec. 5 his paper consisted of 48 pages. At noon, there remained 27 pages to roll, pack and process in 1½ hr. By using Mat Pak for eight of the late open pages, all of the hand packing time was saved, and the stereo department just about made the 1:45 p.m. deadline. Banker observed that Mat Pak is not attractive from a production standpoint for solid type pages requiring little packing.

Stanczak enumerated a number of intensive investigations of the Mat Pak project in the next six months at ANPA Laboratories. Among the objectives are: (1) Develop a cost system to tell a newspaper whether savings, service improvement, or increased productivity will result in its plant; (2) Develop a specific system for use and application of Mat Pak; (3) Institute a training program for in-plant training; (4) Measure costs and quality on competitive packless mats.

In his closing remarks, Stanczak said: ". . . I don't believe proper evaluation of Mat Pak can be made until it is tried in your plant." Stanczak's frank address was well received by his audience.

Packless Mat Discussion

Co-chairman William Tookey requested LeRoy Coates, pressroom superintendent of the Flint (Mich.) *Journal* to make some comment regarding packless mats from the standpoint of the pressroom superintendent.

Coates' comment was arrived at after discussion about packless mat plates with a number of his fellow pressroom executives around the country. He commented upon the liability of the inking rollers bottoming in the non-printing areas of the plates which in turn causes ink to be transferred from non-printing areas in the plate to the sheet. He asserted 0.043 in. depth in the molded mat is not sufficient because 0.002 in. is lost in casting the plate, and a further reduction of approx. 0.012 in. is lost in the presses. To the charge which has been leveled at pressmen, he feels it is impossible to set inking rollers properly where the non-printing area depth in the plate is so shallow. He expressed himself as being willing to do every-

(*Continued on Page* 73)

Speaking at the stereotype session (left to right) were: Frank Stanczak, ANPA Research Laboratories, Easton, Pa.; Co-chairman William Tookey, stereo superintendent, Flint (Mich.) *Journal;* Royal Rager, stereo superintendent, South Bend (Ind.) *Tribune;* Chairman Elmer K. Watson, assistant stereo superintendent, Forest City Pub. Co., Cleveland; Ferd Mier, stereo superintendent, Detroit *Free Press;* J. Edward Johnson, Tenak Products Co.

A Few of Those Who Made the Record Attendance at Great Lakes Conference

(All names read from left to right)

1—Vic Anderson, chief machinist, E. J. Ferguson, stereo foreman and Mel Parkinson, composing room foreman, all of London (Ont., Can.) *Free Press;* A. F. Nolan, Nolan Corporation.

2—John Copeland, production director, Minneapolis (Minn.) *Star* and *Tribune;* Wm. G. Dorriss, mechanical superintendent, Des Moines (Ia.) *Register* and *Trubune;* Lyle Smith, assistant mechanical superintendent, Lansing (Mich.) *State Journal;* Ben Denton, composing machinist, Lansing (Mich.) *State Journal.*

3—Chesley Carlson, Chesley F. Carlson Co.; Robert W. Dickerson, architect and printing engineer; Earl Sweeney, mechanical superintendent, Waukegan (Ill.) *News-Sun.*

4—Carl A. Turk, Ortman-McCain Co.; George Story, composing room superintendent, Middletown (Conn.) *Press;* Arthur McCain, Ortman-McCain Co.; M. D. Vickery, president, Vickery Tape & Machine Co., Peru, Ind.

5—Visitors from England and Canada, J. E. Holroyd, printing manager, London *Daily Mirror,* and Edgar S. Leigh, production manager, Ottawa *Citizen,* are welcomed to Cleveland by Leon Link, production manager, Cleveland *Plain Dealer* and *News.*

6—Joseph P. Dorr, Capital Tool Mfg. Co.; Walter E. Wines, retired, ANPA Mechanical Dept.; Leslie Guerndt, paper and ink handling superintendent, Milwaukee (Wis.) *Journal.*

7—Ed Koriath and Hank Thiele, jr., Korthe Engineering Co.; G. Bruce Blondin, pressroom superintendent, Flint (Mich.) *Journal.*

8—W. S. Gorman, sales, W. F. Murdock Co.; Don H. Zarle, composing room superintendent, Ray Bartolin, chief machinist, and Willard Chapman, pressroom superintendent, all of Akron (O.) *Beacon-Journal.*

9—G. S. Vander Linde, Hammond Machinery Builders, Inc.; Warren B. Smith, mechanical superintendent, Owosso (Mich.) *Argus-Press.;* Ken T. Greenleaf, Hammond Machinery Builders, Inc.; Sidney Weiskittel, pressroom superintendent, Cincinnati (O.) *Enquirer.*

10—Lester E. Stevens, composing room superintendent, Detroit *Free Press;* Ivan Lambert, composing room superintendent, and Robert S. Czachorski, head machinist, Grand Rapids (Mich.) *Press;* William J. Hamilton, chief machinist, Detroit *Free Press.*

11—W. J. O'Brien, press superintendent, New York (N. Y.) *Daily News;* Edward A. Rehm, field engineer and P. L. Tollison, chief engineer, Wood Newspaper Machinery Corp.; Fred P. Brickner, assistant manager, ANPA Mechanical Dept., New York, N. Y.; David W. Lewis, Chas. T. Main, Inc.

12—Chas. J. Thobanen, assistant managing editor, Central Press, Cleveland; Paul Roache, engraving superintendent, Evansville (Ind.) *Courier* and *Press;* John Butler, production manager, Central Press, Cleveland.

Knowledge Sharing Session For Small Daily Newspapers

Problems of small daily newspapers received special attention at a session of the Great Lakes Newspaper Mechanical Conference held in Cleveland in January when a full afternoon's meeting was devoted to an exchange of ideas by representatives of these papers. Chairman of the meeting was Horace H. Parker, press-stereo superintendent, Richmond (Ind.) *Palladium-Item,* who was assisted by Leonard Clemens, Elkhart (Ind.) *Truth.*

A panel composed of LeRoy Coates, pressroom superintendent, Grand Rapids (Mich.) *Press;* Deo Padgett, composing room superintendent, Cleveland *Plain Dealer;* Carl Borckardt, Certified Dry Mat Corp.; Edward Rehm, Wood Newspaper Machinery Corp., provided brief talks concerning areas of newspaper production where special problems exist. Panel Member Edward Rehm insisted that non-metropolitan newspapers need to inaugurate sound maintenance programs. He declared that workers most of the time just don't understand what a machine can do, especially in stereotype casting. He suggested a check be made regularly of temperature control instruments, pumps, casting boxes, vacuum boxes and plate thickness. Another suggestion was that a lubrication chart in the stereotype department would be beneficial—showing what to lubricate daily, weekly and periodically.

Participants in the non-metropolitan newspaper session (left to right) were: Edward Rehm, Wood Newspaper Machinery Corp.; Deo Padgett, composing room superintendent, Cleveland *Plain Dealer* and *News;* Leonard Clemens, press-stereo foreman, Elkhart (Ind.) *Truth;* Horace H. Parker, press-stereo superintendent, Richmond (Ind.) *Palladium-Item;* LeRoy Coates, pressroom superintendent, Grand Rapids (Mich.) *Press;* Kenneth Chatters, mechanical superintendent, Ann Arbor (Mich.) *Michigan Daily;* Cecil Watkins, production manager, Sidney (O.) *Daily News;* Carl Borckardt, Certified Dry Mat Corp.

Systems, techniques and equipment aids for speeding up newspaper production were suggested and described in a talk by Kenneth L. Chatters, mechanical superintendent, Ann Arbor (Mich.) *Michigan Daily.* One of his suggestions was to assign permanent numbers to galleys for improving the system of storing finished ads. He related that in some plants the dispatch department assigns a galley number which follows the ad throughout the plant, making location comparatively easy. Chatters also called for typewriting of all classified ad copy for increasing typesetting speed as well as accuracy.

"In one newspaper," he related, "four leads and one 4 pt. column rule were combined to provide a column rule for the editorial page when it would have been entirely possible to cast a hairline rule centrally on a 12 pt. body in the strip material maker." In another plant, he found borders were laboriously cast in 30 pica widths and noted that a Monotype Material Maker was available for casting this material in 140 pica strips.

The speaker suggested using a mat

shear instead of scissors for trimming stereotype page mats. Electric preheaters on the shell casting box, he said, have reduced the number of chilled casts.

He outlined a number of ways which would effect savings in the composing room. These included: Use of automatic quadders; organizing and labeling pi characters; wide range spacebands for minimizing hand spacing in linecasting machine assembling elevator; and using an extension galley on linecasting machines 8 in. longer than the standard galley. In addition, Chatters told of doubling the capacity of page makeup trucks by a double deck arrangement.

Changeover to Automatic Casting

Experiences gained in changing from hand casting to automatic in-line plate casting and finishing at the Sidney (O.) *Daily News* were related by its production manager, Cecil Watkins. The change came about with the installation of a new 40 page Goss Universal press and prompted the *Daily News* management to provide workers "with the best possible equipment to handle the job."

Watkins outlined operation of the Goss Plate Perfector installed in the *News* plant and said this machine along with the new Wood Pony Autoplate "make for faster and more accurate platecasting with a minimum of physical exertion on the part of the operators." He also mentioned the *Daily News* has installed a special electrical safety that will not permit a cast to be made unless the tail piece is in proper position.

The speaker was asked if he had

(*Continued on Page* 76)

Industry group	Establishments, number	1954 All employees Number	1954 All employees Payroll ($1,000)	1954 Production workers Number	1954 Production workers Wages ($1,000)	Value added by manufacture ($1,000)	Value of shipments ($1,000)	Capital expenditures, new ($1,000)	1947 All employees, number	1947 Value added by manufacture ($1,000)
Newspapers	8,646	281,799	1,262,793	148,941	667,058	2,144,223	3,091,027	75,536	234,375	1,405,709
Periodicals	2,045	62,428	312,695	16,348	68,218	795,543	1,421,700	14,542	68,957	638,384
Books	814	34,704	144,757	8,802	29,250	394,702	665,232	7,558	39,942	262,903
Miscellaneous publishing	946	18,378	73,174	5,271	24,090	149,310	231,242	3,270	12,036	72,151

Census Shows Gains and Drops

More figures denoting gains in branches of the Graphic Arts industry in value added by manufacture as well as noticeable employment drops in two industry groups have been released by the U. S. Department of Commerce in an advance report of the 1954 Census of Manufactures. The report was issued in December 1956 and covers newspapers, periodicals, books, and miscellaneous publishing industries. The first preliminary report of the 1954 census was issued in mid-1956 (see *Printing Equipment Engineer*, Sept. 1956, Page 51). Comparative figures for the last previous Census of Manufactures, covering 1947, are shown in the table whenever available.

Newspapers registered a 20% increase in people employed during the seven years (281,799 employees in 1954 as against 234,375 in 1947) and increased value added by manufacture by an impressive 52.5% ($2,144,223,000 in 1954 as against $1,405,709,000 in 1947). Interesting to some may be the fact that only approximately one-eighth of the newspapers reporting in the 1954 census have 20 or more employees.

One of the employment drops (a 9% decrease) came about in the periodicals field where, in 1947, 68,957 were employed as against 62,428 reported for 1954. Despite this, the industry experienced a 24.5% gain in value added by manufacture—$795,543,000 in 1954 as against $638,384,000 in 1947. Here, also, only a small portion of the establishments (approximately one-sixth) constitute companies of 20 or more employees.

The other employment decline came in the industry which covers the publishing and printing of books. Here, the decrease reached 13%—39,942 employed in 1947 as against 34,704 in 1954. But, like the periodicals industry, value added by manufacture increased—$394,702,000 in 1954 as against $262,903,000 in 1947, a gain of 50%. In this field, only one-fourth of the establishments account for 20 or more employees.

Impressive gains were registered in the miscellaneous publishing industry which the Commerce Department defines as "manufacturing establishments primarily engaged in publishing such products as maps, atlases, sheet music, and directories, or engaged in miscellaneous publishing activities, not elsewhere classified, whether or not engaged in printing".

This industry boosted its employment by 52% in the seven year period—18,378 in 1954 as against 12,036 in 1947. Value added by manufacture more than doubled—$149,310,000 in 1954 as against $72,151,000 in 1947, a gain of 106.8%.

Copies of the advance report of the 1954 Census of Manufactures, covering the group of industries mentioned here and including breakdowns by regions and states, may be obtained at 10 cents per copy from the Bureau of Census, Washington 25, D. C., or U. S. Department of Commerce Field Offices. Specify Series MC-27-1.

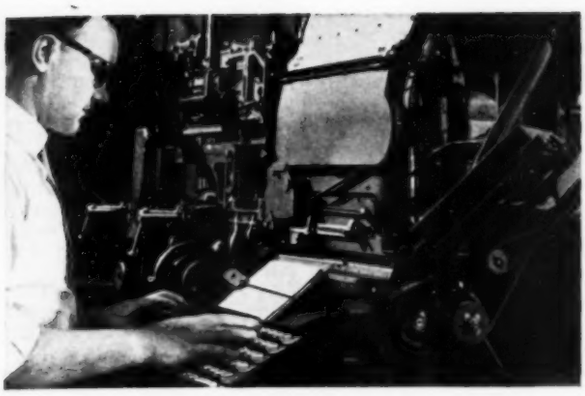
Paper Making and Handling Are Looked At By Pressmen

The Pressroom Session of the Great Lakes Mechanical Conference, Statler Hotel, Cleveland, on Monday, January 14, was devoted to discussions primarily related to the problem of paper handling, both in shipment from the mills, in storage warehouses and in the pressrooms of newspaper plants.

For this session, the Chairman was LeRoy Coates, pressroom superintendent, the Grand Rapids (Mich.) *Press*. He was assisted by Co-chairman Robert Nelson, production manager of the Detroit *News*.

Following are the members who served as a panel during the speaking program and the subsequent question and answer period: Leslie Guerndt, superintendent of paper handlers and ink supplies, Milwaukee (Wis.) *Journal;* Karl Jenze, general superintendent, St. Lawrence Paper Co., Three Rivers, Quebec; Richard Cooney, assistant superintendent, Minneapolis (Minn.) *Star-Tribune;* E. G. Overmire, claim prevention superintendent, New York Central R.R.; Paul Brannon, pressroom superintend-

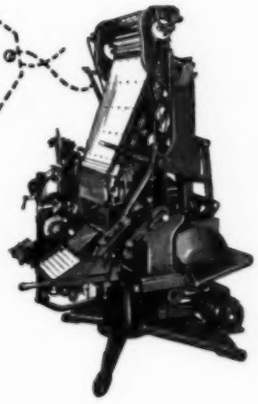
At the microphone during the pressroom session is Chairman LeRoy Coates, pressroom superintendent, Grand Rapids (Mich.) *Press*. Panel members, in order left to right, are: Milo Bildner, pressroom superintendent, Kalamazoo (Mich.) *Gazette;* Leslie Crebassa, pressroom superintendent, Detroit *Free Press;* Paul Brannon, pressroom superintendent, Cleveland *Press;* Robert Nelson, production manager, Detroit *News;* Richard Cooney, assistant pressroom superintendent, Minneapolis (Minn.) *Star Tribune;* E. G. Overmire, claim prevention, New York Central R. R.; Karl Jenze, general superintendent, St. Lawrence Paper Co.; Leslie Guerndt, paper and ink supplies superintendent, Milwaukee (Wis.) *Journal*.



EXCLUSIVE—Shorter drop for faster matrix delivery. Steep 70° angle of magazines, combined with shorter matrix drop and one-piece keyrod action, speeds matrix delivery. Eliminates need for frequent cleaning of magazines or matrices. Convenient lever shifts magazines quickly and easily.

EXCLUSIVE—Swinging front and keyboard for simplified maintenance. Keyboard and front swing open quickly, and keyrod frame, with "ee" attachment, can be lifted out as unit, opening machine from front to back for lubrication, quick inspection of assemblies, and fastest possible maintenance.

SETS FASTEST . .
SELLS FASTEST!



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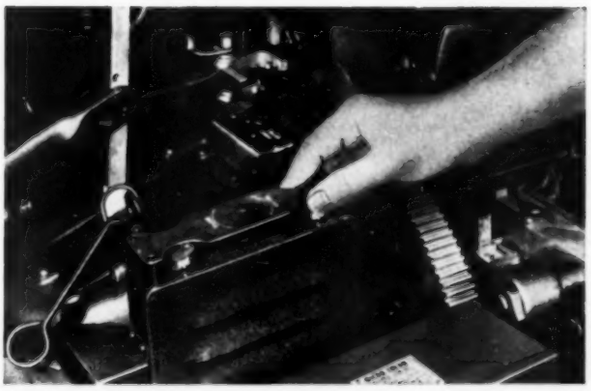
EXCLUSIVE—One-piece keyrods for trigger-quick action. Comet keyrod frame houses direct-acting, one-piece keyrods which, with 70° magazine angle, give immediate matrix response. Feather-touch keyrod action reduces operator fatigue, cuts down possibility of errors while increasing output. Keyrods and keyrod frame lift out as unit.



EXCLUSIVE—Comet electric pot for efficient heat control. Aluminum block throat and mouth heaters of Comet electric pot assure adequate, uniformly heated type metal supply at all speeds. Individual crucible and mouthpiece temperature controls are housed in box shown. The heaters are easily removed without disturbing the crucible.

No machine equals the Comet's speed—even at "cruising" speeds the Comet breaks straight matter records! And with this speed comes an unequalled ease of maintenance.

"Fastest . . . most practical . . . requires no 'babying' . . . easiest maintenance ever . . . rates 100%!"—these are just a handful of the actual comments that characterize the Comet wherever it goes.

There's a reason. For the Comet incorporates the production-building features that are *standard* on a Linotype, and also has *exclusive* features that guarantee exceptional speed plus *unmatched* simplicity of operation and maintenance.

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A Letter from the Editor...

Dear Reader:

We want to tell you in advance about the major helpful and informative editorial articles we have planned for the March Plant Planning and Improvement Issue. These are prepared especially for executives who start planning a new plant building, or when modernizing the present plant.

First, we are now completing a New Plant Section. Here will be described a number of new plant buildings and floor plan layouts, together with exterior and interior views.

Importance of Paint in Relation to Lighting, by Francis A. Westbrook. Since illumination in production departments is so highly important, we are sure you will secure some modern ideas about plant lighting.

Plant Planning--Key to Better Profits, by Ralph D. Holmsten. In this article, PIA's Holmsten tells about preliminary steps to be taken by company executives in considering new plant location and other important matters.

In addition: Other important editorial articles and regular departments.

Watch for this issue. You'll want to file it for future reference.

Mac D. Sinclair

Editor

ent, Cleveland *Press;* Leslie Crebassa, pressroom superintendent, Detroit *Free Press,* and Michael Bildner, pressroom superintendent, Kalamazoo (Mich.) *Gazette.*

Paper Handling at Milwaukee *Journal*

Chairman Coates first introduced Leslie Guerndt who explained the Milwaukee *Journal* system for handling newsprint rolls shipped by water and by rail.

With respect to transit damage he explained that all of the *Journal's* experience has been with 36 in. and 37 in. diameter rolls. At present, all rolls are shipped to the *Journal* either loose in the car or banded in different patterns. He stated that the banding method is the most satisfactory. He went into detail with respect to the loading methods for both widths of rolls used at the *Journal.*

Guerndt discussed roll wrapper troubles. He stated that two of the mills from which the *Journal* receives paper use Kraft wrapper while the others use a soft brittle cover that is very easily worn through by the car walls and then breaks and tears further in the handling process. He asserted the tough Kraft wrapper, even if chafed badly will not tear or break as easily as the other type of wrapper.

With respect to flatted rolls he maintained rolls cannot be flatted in the Milwaukee *Journal* method of handling. Unless a roll is very badly damaged in the car during shipment it has not been the practice of the *Journal* to make claims. The rolls with crushed cores are rewound and the balance are sent to the pressroom to run at slow speed.

In water shipments, said Guerndt, there is less damaged paper when the rolls are piled on planks horizontally and when they are standing on end due to the methods of unloading. With a horizontal load the rolls are rolled directly under the hatch and raised out of the hold without tipping which is necessary when they are standing on end. The edge of a roll is just not strong enough to withstand the weight and therefore will either crack or break. If someone goofs on the job, it is apt to cause a loss of several hundred pounds of paper. "While it is possible to regain the loss in money," he said," it is a lot of trouble and the loss of paper cannot be replaced." After concluding his address, Guerndt exhibited a number of slides to show how paper is handled at the *Journal.*

Mill Manufacturing Problems

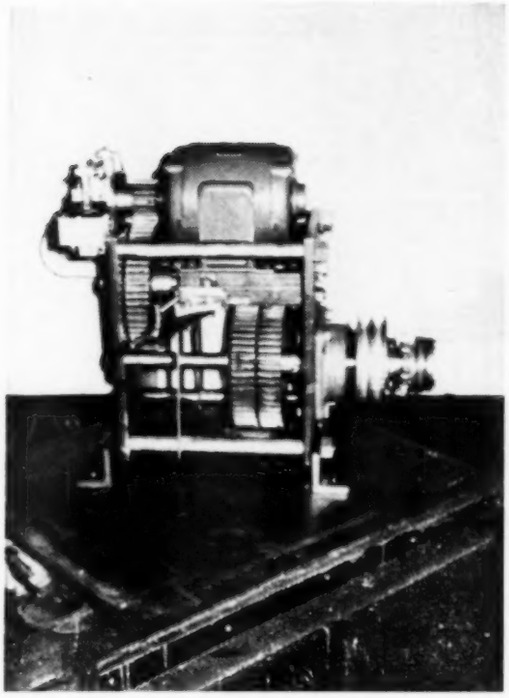
Karl Jenze spoke on the subject of *Making of Paper and Loading of Cars at the Three Rivers Mill.* Jenze's address was presented graphically. He took his audience through the mill, step by step, in a clear and concise manner, discussing each operation. After concluding his address about the making of paper he exhibited a number of slides with diagrams to show the several methods of loading cars for shipment.

Jenze was asked to elaborate on the savings possible, if any, which would occur by using Kraft wrapper. He stated mills are now using 10 lb. spongy wrapper which cracks easily. He praised use of the 6 lb. Kraft

(*Continued on Page* 61)

A. P. S. PRODUCTS

COMBINATION TWO-IN-ONE PAPER ROLL LIFT AND REWIND with one motor



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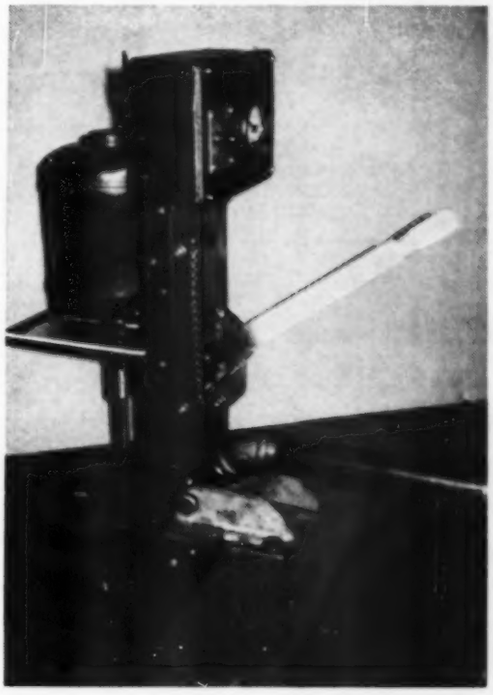

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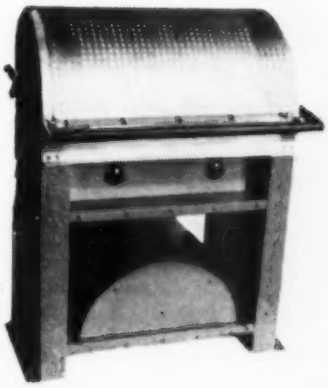

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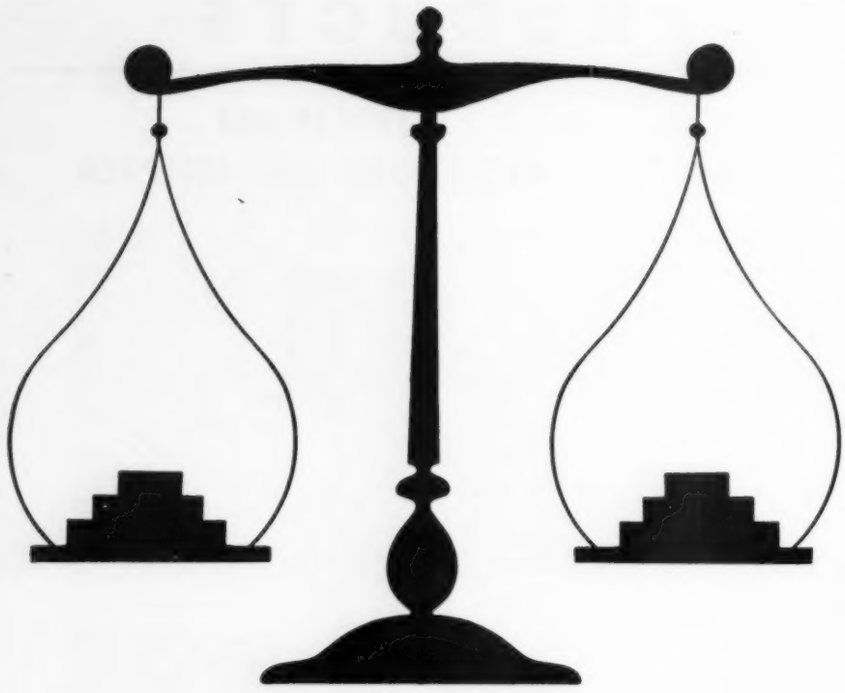

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PATENTS

For The GRAPHIC ARTS

Covering patents issued Nov. 6, 13, 20 and 27.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

SAFETY CONTROL FOR LINE CASTING MACHINE

This safety electrical control insures that a full line of matrices must be normally assembled before an elevator can move to transport the matrices to the type casting position, but it permits release of the elevator when a quadded line is required. Patent 2,770,355 by Byrd S. Fine.

CONTROL UNIT FOR COMPOSING MACHINES

The apparatus effects the selective response of composing machines to stored signal conditions. The arrangement recognizes a predetermined code signal formed by changing an existing code, or by the introduction of a new code so that recurring use of the space code signal within a line after said predetermined signal will cause sequential selection of a space band. Patent 2,770,356 by Arthur F. Lindberg, assigned to Teletypesetter Corporation.

•

Platemaking:

ENGRAVING STYLUS

This stylus, for engraving a halftone plate for image reproduction, is formed from a metallic shaft ending in a deforming tip consisting of a series of coaxial steps effective to impart to a plate a predetermined number of discrete tone gradations. Patent 2,769,199 by John A. Boyajean, assigned to Fairchild Camera and Instrument Corporation.

MATCH PLATE FOR LINE-UP AND REGISTER TABLES

The arrangement provides a match plate for use with the adjustable straightedge and scale mounted on lineup and register tables, which arrangement obviates the need for making a series of separate calculations based on the fractional dimensions of a plate bend. Patent 2,769,244 by George H. Charnock, jr., assigned to Craftsman Line-Up Table Corp.

METHOD AND MATERIAL FOR OVERLAY MASKS

Overlay masks can be made directly from art copy by chemical action without the necessity for special storage and humidity conditions. Combination line and halftone negatives or highlight halftone negatives useable in making relief, litho, and gravure plates are produced almost automatically by this method. Patent 2,770,534 by Walter S. Marx, jr., assigned to Printing Arts Research Laboratories, Inc.

MATRIX MAKING METHOD

The matrix consists of a blotting paper base, one surface of which is coated with urea formaldehyde, after which a type form is applied under pressure. A coloring agent is mixed with the urea formaldehyde to indicate its degree of penetration into the blotting paper. Patent 2,771,646 by Eduard A. Schaum, one-half assigned to Fred W. Hoch.

MILLING MACHINES

The rear surfaces of flat printing plates can be milled uniformly and accurately by this machine. The assembly of parts provides for ready removal of the milling cutter for sharpening or replacement. Patent 2,771,008 by William F. Huck, assigned to Huck Company.

PRINTING PLATE GAUGE

The gauge is light weight and consists of a frame having co-extensive arms with an abutment on the inner face of one arm and a cooperating thickness indicator plunger extending through the arm for indicating variations in the thickness of stereotype, electrotype and zinc plates. It may be operated by one hand, leaving other hand free to hold the plate being gauged. Patent 2,771,682 by Joseph P. Dorr.

LIGHT-DETACHED RESISTS OR RELIEFS

A printing plate for use in litho or photogravure may be made directly from a halftone negative by this invention. It is based on the discovery that a gelatin layer containing certain diazonium compounds will become detached from its support upon exposure to light, and the exposed areas may be washed off, leaving the unexposed areas. Patent 2,772,160 by Martin Hepher, assigned to Eastman Kodak Co.

●

Feeding, Folding, Delivery:

ROTARY CUTTING DIE FOR PERFORATING SIGNATURES

Books comprising one or more signatures with pages secured by glue have perforations at the fold line. The cutter of this invention forms a weakened area so that the fold forms centrally of the series of slots. This eliminates the need for extreme precision in alignment of mechanisms as in the case of two different mechanisms usually required to slot and fold signatures. Patent 2,769,496 by Isidore Spinner.

DEFLECTOR FOR USE WITH CONVEYOR

For conveyors expressly handling newspaper bundles, this invention prevents jamming, using a deflector which detains bundles until they can pass freely. Patent 2,769,530 by Richard Powers, assigned to Bulletin Company.

SHEET TRANSPORTING AND STACKING DEVICE

Two chains which are moved at different but constant speeds move sheets without damaging ends. The lower chain is adapted to reciprocate, on special tracks, a plurality of gripper carriages. The carriages slow sheets before depositing them on a stack. All sizes and thicknesses of material are handled by this device. Patent 2,769,634 by Werner Koch, assigned to Faber & Schleicher Aktiengesellschaft.

PAPER FEEDER

This paper feeding mechanism employs a rotatable vacuum type take-off which plucks one paper at a time from the stack in overlapping relation, in a continuous sucking process. Take off rollers remove the sheet so separated by gravity. High speed and fewer moving parts are its advantages. Patent 2,770,458 by John Halahan, Theodore F. Aronson and Floyd A. Lyon.

WEB CUTTING, DELIVERY AND STACKING

Designed primarily for use in high speed, multicolor, offset presses, this invention adapts to a wide range and gauge of materials. It features an arrangement of controlled air blasts to hold down corners of the advancing web and another air blast arrangement to wipe down each cut sheet onto the pile in time to clear the leading edge of the next sheet. Patent 2,769,495 by Anthony W. Pomper and Charles J. Waechter, assigned to John Waldron Corp.

CONTINUOUS UNWINDING DEVICE FOR WEBS

Webs for high speed printing presses are joined without interruption of the press movement. The supply rolls remain fixed during change over, massive construction is not required, and this machine is virtually foolproof. Patent 2,772,055 by Eugene H. Klingelfuss, assigned to American Type Founders Co., Inc.

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Printing Presses:

PRINTING CYLINDER STRIPPING MEANS WITH STOP PRESS CONTROL

To prevent damage to a printing plate, this control uses a pivotable peeler blade to engage the leading end of a printed web or sheet issuing from a printing cylinder. Thus when printed sheets or web wad up or jam, the blade will yield to upward thrust and allow jamming wad to be removed. Patent 2,769,392 by William B. Leavens, jr.

PRE-POSITIONING APPARATUS FOR PRINTING PLATES

For positioning a plurality of printing plates accurately upon a bed before locking them, this device uses a transparent mask adapted to serve as a support for individual page proofs. The mask is perforated parallel to diagonal grooves in the press bed so that a Key pin can be extended through perforations for accurate registration. Patent 2,770,049 by Harry E. Wimpfheimer.

CONTINUOUS FORM FEEDING APPARATUS

The device is for use with a machine in which two record receiving strips and a carbon strip are fed from three separate supply rolls or to cooperate with any electrically controlled high speed printer. The feeder is self-sufficient with separate drive motor, clutches and control cam contacts, relays, magnets and solenoids. Patent 2,770,185 by Arnold B. Crowell, Henry A. Reitfort and Chester V. Mankiewicz, assigned to International Business Machines Corp.

SELF LOCKING ROLLER, TIRE, AND TREAD FOUNDATION

For feeding and breaking up an ink supply to

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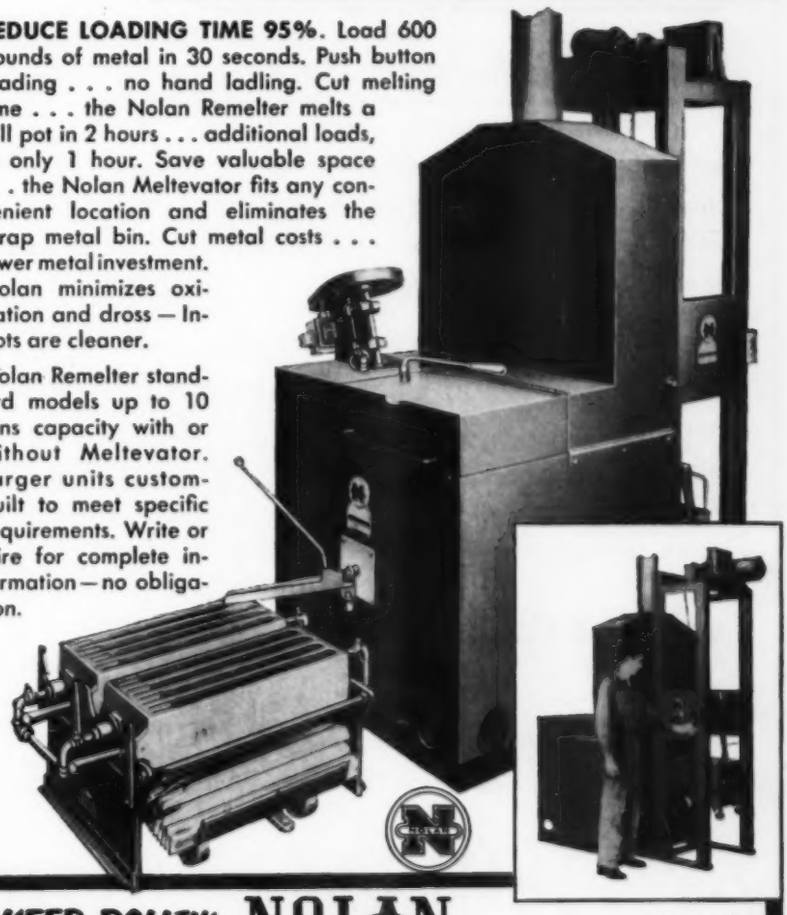

KEEP ROLLIN' BUY NOLAN

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a printing surface, this roller is formed by mounting a resilient face or tread on a metal foundation having helical undercuts of thread form in its contacting face to mechanically lock the resilient facing to the foundation. Patent 2,770,868 by John G. Streckfus and Harry Godwin.

SAFETY SWITCH ASSEMBLY

In adjusting or cleaning an offset press, the operator may be injured if the jogging is not initiated at once. This push button control automatically sets the auxiliary jogging control when the start button is depressed. Patent 2,771,532 by Louis M. Bellio.

STREAK ELIMINATOR FOR OFFSET DUPLICATING MACHINES

A pad is applied over the ejector wheels which are used during passage of paper stock through a Multilith or offset duplicating machine. This pad prevents picking up ink from the wheels and obviates the need for a special drying period. Patent 2,771,840 by Herbert Jacobs, Joseph Ricco and Paul Guglielmo.

SNAP-ON RADIAL MOUNTED PRINTED DIE

The novel structure of this rubber-based die and manner of mounting it on a printing drum avoids difficulties found in use of a completely metal backed die. Metal backs only that portion of the die that carries the letters or symbols being printed. The ends of the die are formed of rubber and have a hole for easy attachment on the printing drum. Patent 2,771,031 by Rudolph W. Knapp, assigned to The Panier Corporation.

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Binding, Cutting, Perforating:

APPARATUS FOR MAKING BOOK CASES OR COVERS

With this apparatus, a single sheet of cardboard can be bent to extend over the front cover, back portion, or trough, and the back cover of a book. The doubling operation is effected with no gaps at the ends of the creases. The machine can handle practically all sizes of covers. Patent 2,769,187 by Franciscus P. D'Huy.

BOOKBINDING METHOD AND MEANS

The shuttle threads of a book rebinding machine are treated with adhesive so that in sewing and binding operations, the successive book sections are firmly glued together along their binding edge portions. This accomplishes an operation that is now tediously performed by hand. Patent 2,769,414 by Hugo Kaimbacher and Heinz Kaimbacher.

COLLATOR

A feed mechanism for collating machines of the superimposed tray type operates efficiently to impel the uppermost sheet in each stack forwardly during the operative stroke of the feeding carriage and automatically moves to a position wherein it clears the stack during the return stroke of the carriage. The feed may be disabled at will so that small gatherings are possible. Patent 2,770,456 by Joseph Magarinos and Floyd C. Hoffman, assigned to Courier-Citizen Co.

●

Miscellaneous:

SKID INVERTER

Stacks of paper destined to be reversed for printing on both sides are inverted while on a skid by use of this simple, hoop-like device in one operation. Patent 2,769,557 by Norman T. Ohr, assigned to Rutherford Press, Inc.

PUNCHING MACHINE

The machine feeds a roll of adhesive tape onto a selected edge of a web or sheet of paper and simultaneously punches a hole through tape and paper to form reinforced loose leaf note book paper. Patent 2,771,009 by Wallace E. Carroll and James M. Bowles, entire interest in said Carroll.

DICK STRIP PRINTER

For printing addresses on a web of record material under the control of an alphabet printing tabulator, a pin feed or sprocket wheel feed cooperates with the perforated address strip to accomplish accurate spacing between address printing operations. Patent 2,770,188 by John J. Nolan, assigned to International Business Machines Corp.

PLATE SENSING MEANS IN ADDRESS PRINTING MACHINES

A photoelectric sensing device is used for determining the distinguishing indicia carried by each address plate as the plates move successively past sensing station, and a multiposition switch timed to the movement of each plate past the sensing station connects successive circuits to indicate the relative position of each indicia along the length of each plate. Patent 2,770,186 by James T. Ehrhard.

PATENT SEARCHES

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VANDERCOOK Printing Equipment

* * PRINTERS SHOULD MOUNT THEIR OWN PLATES * *

News Ink Oils Increase

The cost of news ink oils to the inkmaker is being raised 20% as a result of the shortages of lubricating crude oils, it has been announced by J. S. Hart, vice president of the Ink Division of J. M. Huber Corp. The cost of carbon black for news ink has also been increased ¼c per lb. by carbon black producers.

Pressmen Have Look

(Continued from Page 56)

wrapper which doesn't injure so easily. "But," he observed, "the consumer doesn't pay more for the paper if the Kraft wrapper is used.

Jenze said that ordinary wrapper probably runs in the neighborhood of $175 per T. and Kraft wrapper would run about $50 more per T.

He observed that the advantages through the use of Kraft wrapper are that the publisher pays less and the wrapper has a higher salvage value. Paul Brannon asked Jenze regarding the troubles caused by loose winding of rolls. He stated occasionally there are wads in the roll which do not become apparent in the newspaper pressroom until the roll is unwound during the printing operation. Jenze stated this is caused by carelessness in the roll rewinding operation at the mill. Occasionally loose paper lodged on the floor under the winder is pulled up into the roll. In these instances, the floor is not kept clean.

In answer to a question, Jenze stated loose cores in the roll are caused by changes in moisture conditions. Paper manufacturers do not want to sell moisture. Thus any loss of moisture is the cause of looseness in the roll. He explained that in the winder there is a rider roll to hold the paper down which sometimes fails to function.

Leslie Crebassa wanted to know the cause of calender marks on paper. Jenze replied by saying that calender rolls causing the marks at the mill should run for a period of about three or four months. Calender rolls carry a highly polished surface and if the rolls are run too long the pattern is transferred to the paper. In other words, the marks occur when calender rolls are not changed when they should be changed.

Earl Weiskittel explained that when two sheets of 32 lb. stock are held up to the light, one sheet appears to be more dense than the other. The two sample sheets are taken from different rolls. Jenze replied this is entirely a matter of formation at the mill. Papermakers are constantly battling the problem to keep sheet stocks alike. The cause of it is that the pulp doesn't flow evenly over the wire. He also mentioned other causes of heavy and light spots in the sheet.

Robert Knight, pressroom superintendent, Indianapolis (Ind.) *Star-News*, complained about the quality of printing on two sides of the web. He said that on one side the printing is excellent, but on the wire side it is difficult to secure proper impression. One can see the wire pattern in the halftone areas. He wondered whether or not papermakers are leaving anything out of the furnish. Jenze assured the audience that the mills are not leaving out anything from the furnish. The cause of the difference in the two sides of the sheet is the problem of securing excellent printing surface at higher manufacturing speeds. Mills have gone from 60 mesh screen to 70 mesh and are operating at manufacturing speeds of 1700 to

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1800 f.p.m. In other words, the higher the speeds the finer screen it is necessary to use. Mills are attempting to eliminate the difference in the texture of the two sides of the sheet.

Sidney Weiskittel, pressroom superintendent, Cincinnati (O.) *Enquirer,* complained of tight and loose ends of the web where difficulty is caused when the web passes over angle bars on the press. Jenze explained that this fault is in the mills. The calender rolls are heated and are watched carefull by the machine operators. This difficulty can happen only on one edge of the calender stack. There is a streak of moisture in the sheet which the inspectors try to watch. He also explained that paper manufacturers always utilize the maximum width of a calender stack because if the web width were to be changed the rolls would wear down unevenly. On the 146 in. stacks, if the web width were to be narrowed, there would be a loss of 7 T. production per day at the mill.

ROP Color at *Star-Tribune*

Richard Cooney, assistant pressroom superintendent, Minneapolis (Minn.) *Star-Tribune,* gave an excellently illustrated talk on *ROP Color as it is done at the Star-Tribune.* He carried his audience through the experimental stages when the *Star-Tribune* wanted to print editorial and advertising color in regular daily editions of the papers. He discussed at some length the increased readership which resulted from the printing of editorial and advertising color promptly. In the conclusion of his address he said: "We can keep newspapers in the forefront of the public mind by doing the best job of printing and publishing that we know how —always striving to keep our thoughts and our methods *new.* Newness and news is our business, and ROP news color is one of the answers to the problem of keeping newspapers on top."

What Railroads Do to Prevent Damage

E. G. Overmire, discussed *Prevention of Damage to Newsprint and What the Railroads are Doing to Prevent It.* He said that in 1956 payment for damage to newsprint by American railroads may go as high as $1½ million. But, he said, this amount of money is only part of the problem that concerns all of us. Flat, starred or our of round rolls are the major damage factors with which you have to contend. Overmire assured his audience that the railroads are attacking the damage problem faithfully and sincerely by holding territorial conferences, and operating men have been busy studying ways and means to improve careful car handling. Education of employees through motion pictures and actual switching demonstrations with open sided cars is a continuing prevention program on most of the major railroads.

Overmire stated that the trend in the newspaper publishing industry is to go to larger size rolls.. Very seldom do the railroads see any rolls under 36 in. diam. and more likely approach 40 in. diam. He discussed minimization of flat damage with good loading patterns and good spilling methods.

Overmire stated the New York Central, as an example of what the railroads are attempting to do to minimize damage, is putting into operation the first three electronic classification yards which will cost in the neighborhood of $31 million. The first of these is at Buffalo, N.Y., one at Youngstown, O., and the other at Elkhart, Ind. "Already," he said, "there are some 15 or 20 electronically operated freight yards representing many million dollars investment."

The speaker said it has been found that considerable damage is caused by the improper use of unloading equipment. He continued: "Take for instance, the prying paddles where used improperly which can cause gouging of the rolls. The tipping of rolls on edge without the use of a metal shoe will split the roll. This is not always apparent until the wrapper is removed. Rolling the large heavy rolls over uneven or unclean floors often causes damage." He mentioned that during a test a roll dropped 18 in. had a flat spot on the circumference which would have caused rejection in many a pressroom. The improper tensioning of the clamp on power paper trucks can squeeze the roll out of round.

Improve Pressroom Equipment

Robert Nelson, production manager, Detroit *News,* spoke on the subject: *What Can Be Done to Improve Pressroom Equipment.* Nelson delivered a punchy, but blunt, address regarding the apparent lack of prog-

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ress in the newspaper printing press field. He asserted this progress has been "appallingly slow."

Nelson said: "I will agree that presses run faster today, but I seriously question whether they print better today than they did years ago. I will readily agree that the ink distribution system has certainly been improved over the years but we still must transfer ink by various means from the fountains to the plate.

Greatest Major Change

"Actually, the greatest major change which I have seen in recent years has been the use and the adaptation of an underside type plate lockup."

Nelson asked: "Why cannot the same relative type of scanning mechanism be used in conjunction with a special densitometer, so as to scan the columns on a printed page in black and white, or in color, or both, to achieve automatically a uniform and constant color at all speeds at all times on the press? No longer would it be necessary for the pressman to go through the delivery, take his paper out, make the necessary adjustments on the ink setting, and then check the paper again to see if he has the color just right. . . . It would seem to me that the less adjustments the pressman has to continually make on his equipment, the better off we are going to be."

The speaker said he appreciated that considerable time, money and expense had gone into the designing and manufacture of color equipment but he feels that these units are still the same as the conventional press units used for black and white printing." He mentioned five color press equipment which is used in the magazine field and wanted to know why something similar could not be adapted for operation with high speed newspaper presses.

Nelson continued: "Frankly, I feel that possibly we mechanical people have been somewhat lax in not being willing to take a chance on a new piece of equipment. We have close deadlines, we have a maximum amount of production to be delivered in minimum time for afternoon home delivery. Consequently, when we purchase a piece of equipment we expect it to perform at its top capacity and efficiency almost as soon as we start running it.

Insist on Equipment Changes

"I think it is up to each of us, when we are talking about new equipment, or even our present equipment, that we insist upon certain changes being made."

He urged his fellow executives to think along the lines that new equipment must be designed to operate in conventional pressrooms. He also said that when a manufacturer announces he has developed an improved type and different press unit and it is going to cost us so much money to build it, he will ask if the publisher is willing to pay for it. He also urged that press manufacturers and newspaper executives should consider joint research and development in connection with the use of ink and paper on the improved press equipment. Cooperative action and research by the people involved would result beneficially, he concluded.

Save HALF Your Saddle Stitching Costs!

This is no trick at all when you use the Rosback Auto-Stitcher. Want proof?

Rosback®

Auto-Stitcher Features

- **Basic machine has two stitching heads and slide stacker delivery.**
- **Seven accessory attachments, including continuous belt delivery, are available to meet the requirements of printing plant or bindery of any size.**
- **Low in price—less than half that of any gang stitcher.**
- **Cuts costs—as much as 50% or more when compared to hand stitching.**
- **Handles short runs at low cost—saves tying up expensive gang stitcher equipment.**

One experienced user reports:

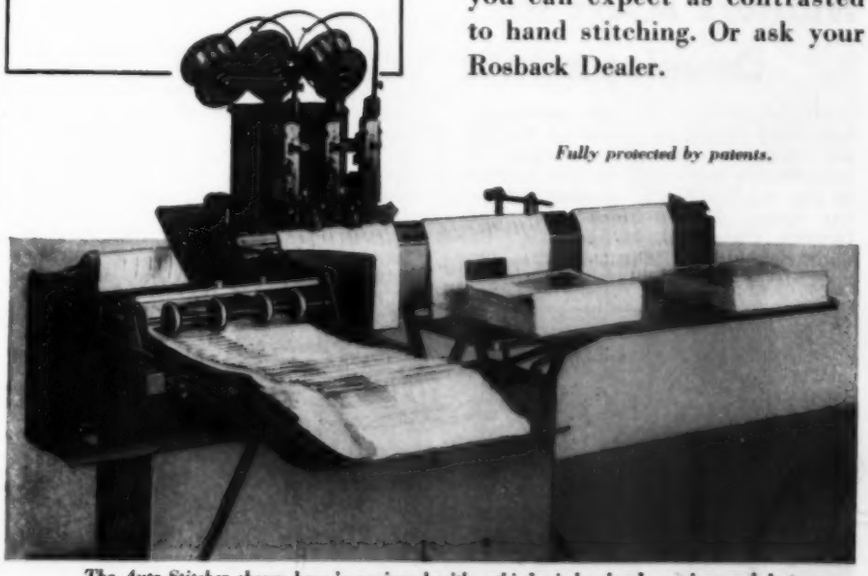
"Using our Auto-Stitcher two girls now do in eight hours what formerly took five operators working eleven hours. That's a clear saving of 70% in direct labor alone!"

Can you think of any easier way to cut costs and earn *extra* profits in *your own* business?

It costs you nothing to find out about the Auto-Stitcher and how it makes possible such valuable savings. And there's no obligation.

Send us samples of your average stitching jobs. We'll gladly give you complete description of the Auto-Stitcher and a careful, conservative estimate of the savings you can expect as contrasted to hand stitching. Or ask your Rosback Dealer.

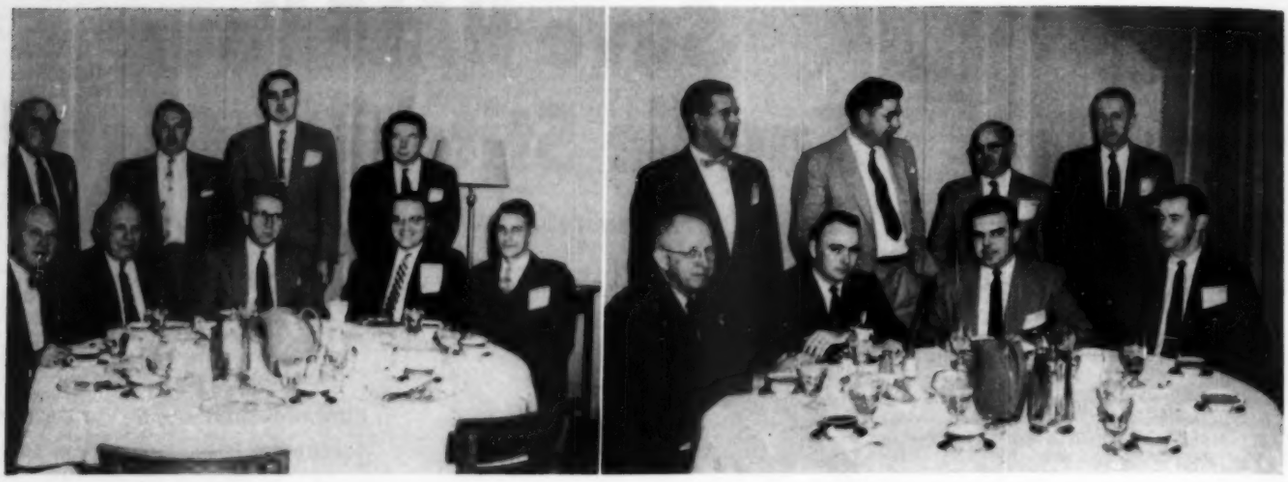
Fully protected by patents.



The Auto-Stitcher shown here is equipped with a third stitcher head, continuous belt delivery and second feeding station.

F. P. ROSBACK COMPANY • Benton Harbor, Mich.

WORLD'S LARGEST MANUFACTURERS OF PERFORATORS, WIRE STITCHERS AND PAPER PUNCHING MACHINES



R&EC Engineering and Materials Handling Committee

The various committees appointed for specific duties in the Research and Engineering Council have been very active. One of these, the R&EC Engineering and Materials Handling Committee, met at Hotel Cleveland, Cleveland, on November 29.

The scope of this committee is to study and organize all in-plant methods, materials and equipment necessary to support and maintain an efficient printing plant. Among the objectives are: (1) Solvents and cleaners in the Graphic Arts industry; (2) Graphic Arts maintenance; (3) Lighting in Graphic Arts; (4) Standardization of controls and signalling devices. The subject of Lighting is quite extensive, nine areas of a plant to be covered. A color appraisal task committee has been appointed to establish standard conditions for the color appraisal of opaque and transparent color copies and their photomechanical printed reproductions.

The Research and Engineering Council, composed of some of the industry's top notch personages, is at work on difficult subjects which will certainly benefit the Graphic Arts industry immeasurably. By establishing standards in a rapidly changing industry, the Council hopes to keep pace with progress and ultimately pass along to the industry the results of its studies in easily assimilated form.

Those attending the Cleveland meeting were: (left picture) seated (left to right): Irving Rigby, The Conde Nast Press, Greenwich, Conn.; George Keller, Dexter Folder Co.; C. M. (Larry) Flint, Chas. T. Main, Inc., chairman of committee; Robert E. Rossell, R&E Council managing director; H. J. (Jack) Holloway, Alfred Allen Watts Co., Inc., Belleville, N. J.; Standing: H. R. Behr, Cline Electric Mfg. Co.; Loren E. Askins, Gebhardt Folding Box Co., Dayton, O.; Delwin Smith, Lewis-Shepard Products, Inc., and Collier A. Elliott, Mergenthaler Linotype Co.

Right picture, seated (left to right): E. G. Peterson, Cutler-Hammer, Inc.; James A. MacMartin, National Pub. Co., Washington, D. C.; J. C. (Jim) McClure, Jr., Western Printing & Litho Co., Racine, Wis.; H. T. (Ted) Hawkes, Southworth Machine Co.; Standing: Richard Chapman, The A. L. Garber Co., Ashland, O.; Mark Tripp, Providence Lithograph Co., Providence, R. I.; Daniel H. Campbell, U. S. Government Printing Office, Washington, D. C.; Earl C. Brown, McCall Corporation, Dayton, O.

Mailers Alert to Developments

Mechanization of the newspaper mailroom continues to be an important subject to many mechanical executives as evidenced by the interest in the mailing room session held at the Great Lakes Mechanical Conference, Cleveland, in January. The chairmanship of the meeting was shared by Don Holstein, mailroom foreman, South Bend (Ind.) *Tribune*, and Roy Seitz, mailroom foreman, Cleveland *Press*.

Holstein keynoted the meeting with the remark that mailroom procedures are improving so rapidly that supervisors must be constantly alert to keep pace with the advancements. A. C. McCain, Ortman-McCain Co., spoke briefly of a dry powder spray device developed by his company which he claimed will eliminate much of the sticking occasionally encountered between newspaper supplements. The condition has become a problem in the mailroom especially on those newspapers with automatic inserting equipment. The powder is applied while the supplement is running on the press.

D. A. Matticola, service manager, Signode Steel Strapping Co., spoke on maintaining efficient operation of the Signode automatic wire tying machine. Many of his remarks concerned proper lubrication of the Signode machine. He said Signode will send instructions dealing with prescribed lubricants to users of the machine. William Power, also of the Signode

Mailroom session speakers (left to right) were: Joseph F. Walker, sr., mailroom superintendent, Cincinnati (O.) *Enquirer;* Roy Seitz, mailroom foreman, Cleveland *Press;* Don Holstein, mailroom foreman, South Bend (Ind.) *Tribune;* D. A. Matticola, Signode Steel Strapping Co.; L. F. Fallon, Wiretyer Corporation; Robert H. Smith, mailroom superintendent, Indianapolis (Ind.) *Star News;* Edwin Koffke, mailroom foreman, Milwaukee (Wis.) *Journal;* Frank L. Olds and Jack Orsinger, T. W. & C. B. Sheridan Co.

Louie Linecaster says:

for SHARPER FACE and MORE SOLID SLUGS

THE STAR FEEDER IS BETTER!

It's as simple as this: An ordinary feeder lets into the pot with each drop of level, four to six times more cold pig than does the Star Feeder. When a large slug is being cast at a relatively rapid rate, more hot metal is being pumped out than the limited amount of wattage or B.T.U. of gas in the pot can melt off the cold pig in the short cycle of time between slugs.

The result is lowering the level of the pot, which calls for more metal. More metal goes in, but in the form of cold, unmelted pig, which eventually rests on the bottom of the pot. If the pig is short enough, it may—and often does—lean backwards to get under the pot lever. The result is breakage of an expensive part, and much delay in productive time.

Admittedly, this is the extreme case; but this is the sort of time-consuming accident the Star Feeder provides against in all slug production.

The by-product, too, is a better slug both as to face and solidity.

Have you tried STAR SLIC? It's the answer to keeping molds clean—without rubbing.

STAR PARTS, Inc.

SOUTH HACKENSACK, N. J.

Pick a WETTER *and always get...*

- Perfect Number Sequence
- Clean, Sharp Impressions
- Crisp, Accurate Register

NONPAREIL MODEL

For general use on large diameter cylinder, bed and platen type presses. Roman or Gothic figures.

5-wheels—$24.00*
6-wheels— 26.00*
7- and 8-wheels—prices on request

MIDGET MODEL

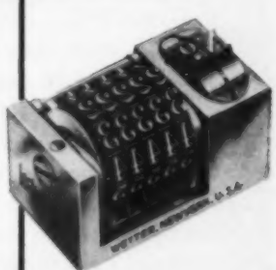
For use where room for numbering machine is limited i.e. stamps, coupons, tickets, etc.

#115—5-wheel Roman $37.00*
#223—6-wheel Roman 40.00*
#116—6-wheel Gothic 40.00*
#224—7-wheel Gothic 44.00*

LOCK-WHEEL MODEL

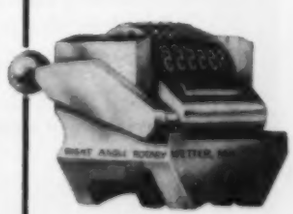
For small diameter cylinder, high-speed presses. Roman and Gothic figures.

5-wheels—$29.00*
6-wheels— 31.00*
7- and 8-wheels—prices on request



RIGHT ANGLE ROTARY MODEL

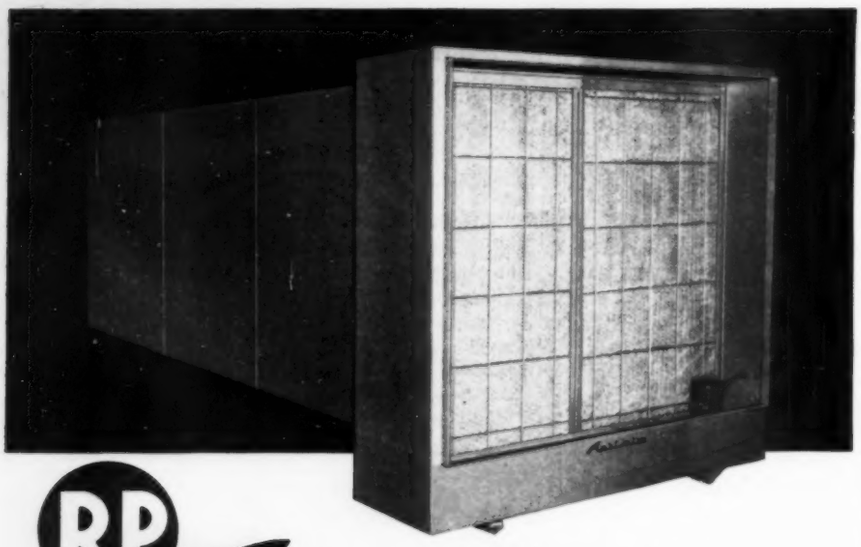
For numbering at right angles to the impression cylinder. Available also for parallel operation. Gothic and Roman figures. Prices on application.



*Removable slide plunger $1.00 additional—all prices F.O.B. Brooklyn, N. Y.

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET · BROOKLYN 8, N.Y.
ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

NEW INDUSTRIAL HUMIDIFIER DELIVERS *PERFECTLY CONTROLLED* WINTER-TIME HUMIDITY!



RP Aprilaire

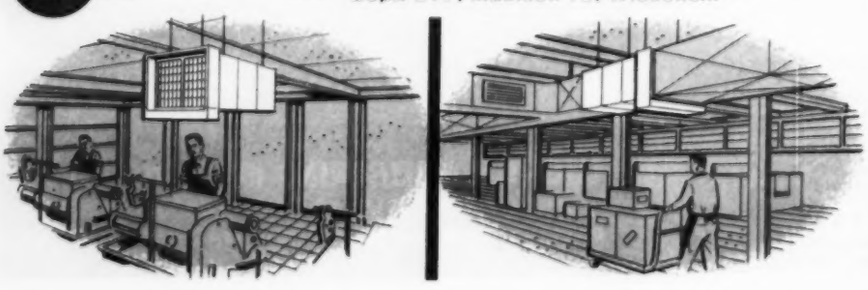
AUTOMATIC-ELECTRIC HUMIDIFIER

Designed on an entirely new principle of humidification, Aprilaire Industrial Humidifiers constantly, accurately, provide and maintain the exact humidity required. Recordings of an industrial installation during a 24 hour period, with a humidistat setting of 31%, show the relative humidity range held between 27% and 34%, despite an outside temperature change from 35° to 0°.

Important Features—HIGH CAPACITY (unit sizes up to 10 gallons per hour); POSITIVE CONTROL (introduces humidity as needed—only when needed without lag or over-run); FLEXIBILITY (for gas, steam or hot water heat source); MINIMUM MAINTENANCE (the only liming occurs on inexpensive, replaceable evaporating pads); ISOTHERMAL OPERATION (has no temperature effect on humidified air); BACTERIA REMOVAL (the Aprilaire's unique method of humidification provides an important plus feature—70% of all bacteria in air stream passing through unit is removed).

Residential Aprilaire models available too—write for complete information.

RP ... PRODUCTS OF RESEARCH **RESEARCH PRODUCTS** *Corporation*
Dept. 917, Madison 10, Wisconsin



company, announced his firm would soon announce a new wire pack for use with Signode wire tying machines.

Speaking for the T. W. & C. B. Sheridan Co. were Frank L. Olds and Jack Orsinger who showed movies of a new three station, 12 pocket inserting machine now installed at the South Bend *Tribune*, and also provided a slide presentation of the company's newly-developed top and bottom automatic wrapper applier which is being tested at the Milwaukee *Journal*.

Olds stated that the Sheridan firm has established a research group to undertake studies of mailroom problems. He mentioned development of a memory device for use on stuffing machines which would function in the event a miss occurs at one of the stations. He predicted they would eventually develop mechanisms which will pull incomplete papers coming from the stuffer directly from the conveyor line. Sheridan, according to Olds, is also working on a counter stacker which will be attached to the inserting machine and will provide any count desired.

Wiretyer Corporation has devised a test called the Mailroom Evaluator, which serves as a means of measuring how well any mailroom uses the advantages of automation. The test, which is explained in a four page folder, was presented at the meeting by L. F. Fallon, Wiretyer's vice president in charge of sales. The Mailroom Evaluator consists of 16 questions which refer to mailing operations. A scoring system permits evaluation of the operation. Wiretyer offers to make an engineering analysis on any score submitted. Copies of the Evaluator are available on request.

Progress in the development of the Cutler-Hammer stacker being tested at the Milwaukee *Journal* was reported by Edwin Koffke, mailroom foreman, and J. H. Sauer, representing the C-H firm. Although the machine has undergone several revisions, they said no announcement of the results can be made at this time. Koffke expressed optimism that many problems encountered on the stacker would be overcome through use of the Ortman-McCain dry powder spray device.

Equipment & Supplies

(Continued from Page 28)

duces weight on the bottom edges of the sheets. The machine, named the Jog-Air, can be used for onion skin and carbon paper jobs. The jogger is finished in black crackle and is equipped with fixed handles. For further details, please mention PEE No. 300 in your request.

Extruded Sheet for Printing

A modified styrene sheet made for printing requirements of display, toy and other industries, has been announced by Campco Division, Chicago Molded Products Corp. Registrite is suppled in various thin gauges. For further details, please mention PEE No. 274 in your request.

Type Metal, TTS Spacebands, Carbide Tip Saws Discussed

After the opening ceremonies of the Great Lakes Mechanical Conference on Sunday morning, January 13, the Composing Room Machinists' Session got under way. The Session was presided over by Theodore (Ted) Gardiner, chief machinist of the Indianapolis (Ind.) *Star-News*. He was assisted by Co-chairman Robert Rackham, chief machinist, Dayton (O.) *Daily News*.

The panel on the platform consisted of Harold Cook, Automatic Saw Sharpening Co.; Harold Johnson, chief machinist, Columbus (O.) *Dispatch;* I. J. (Ike) Chalifoux, chief machinist, Forest City Publishing Co., Cleveland; Harry Perry, Ludlow Typograph Co.; William Hamilton, chief machinist, Detroit *Free Press;* Vic Anderson, chief machinist, London (Can.) *Free Press*.

Chairman Gardiner stated that the first speaker who had been scheduled to discuss *The Matrix—Lifeblood of the Linecasting Machine*, Sol M. Cantor, president, The Composing Room, Inc., New York, N. Y., could not be present because of illness.

Linecasting Metals—Proper Handling

Chairman Gardiner then introduced W. S. Coulson of Imperial Type Metal Co. who discussed the handling of linecasting metal in the composing room. He reviewed analysis of type metals and discussed how each element in the metal alloy functions to produce the best possible type.

Magnesium Contamination

Coulson also discussed type metal contamination. Because of fairly recent introduction of magnesium printing plates in volume in the industry, the question has been raised respecting contamination of type metal by magnesium. Coulson advised: "Fortunately, both magnesium and aluminum are not easily soluble in type metal. The only time contamination is likely to occur is when shavings, sawings or cuts lodge in the bottom of the pot where, for a short time at least, the temperature is far greater than is realized after most of the type metal has become molten." He warned that it is just good housekeeping to keep out all foreign metals such as zinc, copper, aluminum and magnesium from the remelting furnace.

Metal Adhesion

Coulson observed that in his talks with machinists regarding metal buildup on spaceband sleeves, most of them agree that the cause is improper cleaning and polishing at frequent enough intervals, and that machines need closer maintenance. He quoted from an article about buildup of metal on the sleeve and spaceband maintenance which appeared in the Feb. 1955 issue of *Printing Equipment Engineer*. He quoted in part: "There is practically no corrosion, etching or staining of the steel parts due to the presence of type metal itself . . . The dark stain which appears on a new spaceband after use is simply a function of temperature. If a new spaceband is heated in the flame of a Bunsen burner, it, like any other piece of highly polished steel, will take on an exceedingly thin film of iron oxide formed on the surface due to temperature and the presence of air. The fact that type metal is the medium for delivering the heat to the spaceband instead of the Bunsen burner makes no difference at all."

TTS Spaceband Polishing Operation

The controversial subject of proper care and polishing of spacebands in connection with high speed TTS operation received considerable attention from the panel and from individuals in the audience.

It was the consensus of opinion that under today's high speed operation of linecasting machines that the cleaning and polishing of spacebands once every 8 hr. shift was no longer applicable. The difference, of course, is in the more severe usage of spacebands and TTS operated machines as compared with manually operated linecasting machines.

It seemed to be the consensus of opinion, too, that type metal being

(*Continued on Page* 71)

OUR BLANKETS ARE KNOWN, SOLD AND USED ALL OVER THE WORLD
Blankets for Any Press—Any Speed!
● Monocork Deluxe, Regal and Mastercork blankets — for various combinations
● New England top blanket assures the finest in print results
● Graylock top blanket — a new, improved advancement to newspaper printing
Plus Plain Felt, Coated Felt, Red Rubber, Utility and Bay State Blankets.
Also equipment and supplies for Stereotype, Composing and Press Rooms.
NEW ENGLAND NEWSPAPER SUPPLY CO.
DIVISION OF NEW ENGLAND FIBRE BLANKET CO.
164 FREMONT ST.
WORCESTER, MASSACHUSETTS
GARDENER G. DEMALLIE, GENERAL MANAGER
NEW YORK OFFICE: 230 West 41st Street New York City TONY CRONIN • TONY MILLER
CHICAGO OFFICE: 2329 Daily News Building Chicago, Illinois SCOTTY CAMPBELL
SOUTHWEST OFFICE: 1225 South Trenton Tulsa, Oklahoma EDDIE P. GAUGHAN
WEST COAST OFFICE: 822 DeYoung Building San Francisco, California ED SPARKS

Composing Discussions Feature Photon Report; Procedures

Adaptation of the Photon phototypesetting machine to newspaper operation is emerging from the pioneer stage. This was indicated in a talk given at the Great Lakes Newspaper Mechanical Conference by R. D. Allen, assistant to the publisher, Quincy (Mass.) *Patriot Ledger*. Allen was a participant on the composing room session program which was conducted by Lester E. Stevens, composing room superintendent, Detroit *Free Press*.

In discussing the early use of phototypesetting at the *Patriot Ledger*, Allen said: "No new system is going to reduce costs from the very beginning. Besides investment for new equipment, your people have to learn how to operate the new machines efficiently, develop new techniques and go through a lot of trial and error experimenting."

He declared his newspaper is "more interested in the process than in the machine," and acknowledged that each of the phototypesetting machines on the market has its own advantages. Four Photon machines are currently in use at Quincy. According to Allen, a Photon will soon be installed at the Allentown (Pa.) *Call-Chronicle* and will be followed by an installation at a Louisville newspaper.

The speaker related that in the first 18 months of Photon operation " . . . we did a lot more experimenting than production. . . . The past year has been different. The machines perform well and we are photocomposing about 60% of our local retail advertising." He expressed hope they will be able to absorb all retail display advertising by the process in the next six months.

The time factor, said Allen, is one of the problems faced by the Photon. "From the time the type is set we wait 15 to 20 min. for darkroom processing before we have the material ready for pasteup. As yet we cannot set the type on paper, but it seems to me that a paper product will ultimately be required if the machine is to be successful in the newspaper industry."

Improved Proofing Needed

He believes all users of photocomposition agree that a better proofing system is needed. The *Patriot Ledger* is now using an Autopositive translucent process for proofing. The newspaper also uses the Dow Rapid Etching Process.

(*Continued on Page* 70)

Stereo Supt. — "I'll be glad when your wife gets back — We're late with the mats every day."

nuArc N-110 AUTOMATIC ARC LAMP

●

BEST FOR ROP COLOR REPRODUCTION!

●

GUARANTEED FOR COLOR TEMPERATURE AND INTENSITY!

●

PERFECT PLATES AND QUALITY IMPRESSIONS!

ROP color is no longer a novelty . . . it's a commonplace. And—advertisers who use ROP color are no longer satisfied with second-best reproduction. They want the BEST. You can give them the best with the help of a completely automatic, motor-driven nuArc lamp.

Completely controlled light is the most important factor in making plates that produce top quality impressions. Light control is so complete with a nuArc that variations in color and intensity never vary more than plus or minus five percent. This means reduced power costs, shorter exposure time, sharp and clear dot structure, and no undercutting. No moving parts to wear out, no tubes to burn out, no points to set. Only the N-110 offers so many possibilities for economy, improved quality, and increased production. **Contact your dealer, or write for bulletin 205A.**

nuArc® COMPANY, INC.
General Office and Factory:
824 S. Western Ave., Chicago 12, Ill.

Eastern Sales and Service: 215 Fourth Avenue, New York, N.Y.

Plate Alteration-Repair Service

Reilly Electrotype has announced improvements in its letterpress plate alteration and repair service. Techniques developed by Reilly engraving specialists now permit such adaptations and corrections as removal of line copy from screen backgrounds, restoring of the screen and insertion of line copy and removing or restoring color, text or art on four color process plates without revising artwork, shooting new photos or making new original engravings. Another adaptation is removal of text or lettering in perspective and the engraving of new text or lettering on the plate in its place. For further details, please mention PEE No. 309 in your request.

Engravers

(Continued from Page 50)

curved to the precise micrometer measured plate cylinder diameter of the newspaper press. To this is laminated a 16 ga. magnesium engraving which also is curved by our process." The engraving can be laminated to the saddle either by a mechanical or adhesive bond. He also mentioned running a four-color job direct from magnesium originals on a newspaper press with good results.

Powderless Etch Zincs

A fine-grained hard zinc alloy called Vitaplate, was described by Robert J. Patsko, Imperial Type Metal Co. He referred to combination plate etching and reported that development work is in the final stages. He described it as a two-bath operation. The first bath is used to etch halftone and combination plates. Halftone subjects in 65 line screen may be etched to depths of 0.005 in., to 0.006 in. in the highlight areas in 2½ to 3 min., according to Patsko. Line areas in combination subjects are etched to 0.013 in. to 0.015 in. in 10 to 11 min., he added.

Patsko also said: "In plants where one machine and one bath might be used, economies may be obtained by using the combination bath for an initial etch of about 0.010 in. The plate may then be finished by two powder bites in conventional etching machines. It affords a saving in time on combination and line subjects of at least 20 min."

Frank Bonner, Rolled Plate Metal Co., next explained his company's Micro-Metal powderless etch zinc. He also reported that 209 Dow etching machines are in use today in both commercial and newspaper plants. Of this number, 76 have been installed in 37 newspapers.

Bonner stated best results in the powderless etching process can only be accomplished by a skilled craftsman who understands the theory of what is happening. He added: "The first thing an etcher must realize is that he is producing a photoengraving using chemicals to protect the sides of his lines and dots without the use of an etching powder." The speaker also said experience has shown there is a difference between machines and standards of quality for different shops. Each shop must make its final adjustments of bath composition and etching conditions.

A description of the Dow powderless etching process was provided at the engraving meeting by Wesley Miller, Master Etching Machine Co., who claimed it was possible, by using two machines, to etch a combination or line flat down to depths of 0.025 in. to 0.035 in. During the course of his talk, he mentioned the rising interest in direct printing from curved photoengraved plates. He said the ideal way of making such plates is to curve the metal prior to printing and etching. The metal is then uniform in thickness, the problem of flats, breaks, and possible out-of-register due to stretch are overcome. Etching machines for processing curved plates are available. Miller went on to describe a process of curving a plate after etching which is used at the Holyoke (Mass.) *Daily Transcript and Telegram.*

Impromptu Discussions

Other speakers at the session who participated in impromptu discussions included: O. A. Walters, engraving superintendent, Cleveland *Press;* Spilman B. Gibbs, Chemco Photoproducts Co.; Norman Bridwell, Jones Graphic Products Co.; and A. B. Fry, Dow Chemical Co.

One such discussion concerned the dumping of etching solutions down

Lengthwise Shrinkage is no Laughing Matter

It's a fact that Burgess Mats do shrink less lengthwise for a given width shrinkage. This means minimum loss of lineage and revenue for the advertising department. For this good reason plus the assurance of the best possible reproduction—use Burgess Mats.

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of
Burgess Chrome and Supreme Tone-Tex Mats, Freeport, Illinois

Canadian Representative, R. M. Louson & Co., Ltd.,
Kennedy Road, Agincourt, Ontario

A Laboratory Product
BURGESS Chrome MATS

sink drains into sewers. Codes in many cities prohibit such practice and specify the plant must have neutralizers installed through which solutions will run before entering sewer drains. Acid resistant piping was also recommended. Gibbs suggested running water into the etching bath to dilute its properties before letting it run into the drain.

A member of the audience asked how many high speed etching machines were recommended for an initial installation. There were differences of opinion among the panel members on this point. One panel member said most advisors recommend one machine, while another held that two machines are best.

Perkins was asked if his company has plans for making available curving or bending equipment to the trade. He replied that B&P is still trying to determine the size of equipment it can put into the field but have no plans as yet for producing such equipment.

Composing Talk

(Continued from Page 68)

On training operators for the machine, he commented: "You face the choice of either training a competent typist in ad work or teaching an ad operator how to type." He closed his remarks with a reminder that the greatest savings in cold composition are in display ads.

Allen was asked by Leon Link, production manager, Cleveland *Plain Dealer* and *News*, whether or not phototypesetting posed any new problems in newspaper operation. The speaker replied that advertisers like some of the things that can be done with photocomposition. Fancy arrangements of type are comparatively easy by the process but are difficult to achieve with hot metal.

He was also queried on what workers perform the photographic pasteup operation at the *Patriot Ledger*. Allen said these workers were formerly ad makeup men who have been trained to do pasteup work. In most cases, he added, the changeover from hot to cold composition was made by utilizing existing composing room help except where it was not feasible to train the employee. In addition, before the changeover took place, the publisher called together the workers and explained what the newspaper intended to do with cold composition.

Commenting further on proofing methods for photocomposition, Allen predicted a greater use of Xerography by photocomposition plants and said it might very well be one of the answers to the problem now faced in this process.

He was asked about deadlines at the *Patriot Ledger* to which he replied they operate strictly on the schedule and deadlines followed when the newspaper was setting everything in hot metal. He also said magnesium is used and the ads are etched the night before publication whenever possible.

Ad Correction Charges

The system used at the Milwaukee (Wis.) *Sentinel* for handling advertisers' correction charges was described next by Arthur Goetz, composing room superintendent of that paper. The system revolves around the use of printed forms for first, second, third and final revises. The first revision (indicated by a white slip) is free unless the advertiser has a tearup of more than 25% of the ad through no fault of the newspaper.

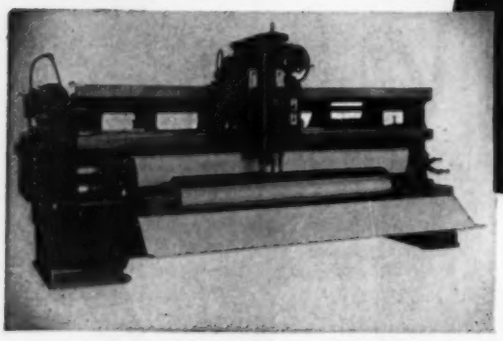
Second revise is shown by a blue slip attached to the ad proof and all time consumed on this revision is charged to the advertiser at the hourly alteration rate. Further corrections are followed by yellow and orange slips. Goetz pointed out the colored slips indicate to the advertiser that he is being charged for the corrections he has made.

A system of initialing by machine operators, proofreader and makeup man is used on the colored slips which makes it possible to recheck if a mistake is made on the ad. Goetz added: "We immediately know where to go and are in a better position to determine what happened." He concluded that the system has eliminated many of the complaints from advertisers.

Ad Handling Procedure

The ad handling procedure in use at the Minneapolis (Minn.) *Star-Tribune* was outlined by its production director, John Copeland, who explained the system is an outgrowth of a study made of dispatch room

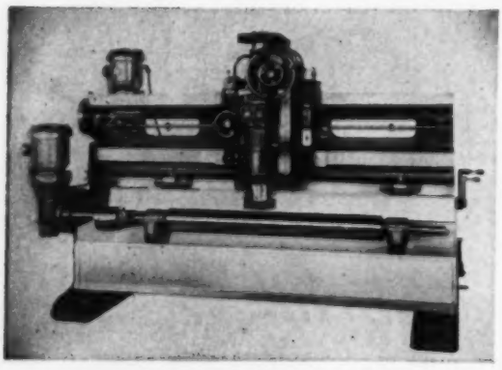
For GRAVURE at its Finest



Model "HL" Grinding and Polishing Machine. Taking cylinders up to 70" circ. x 89" face.

FINISH YOUR CYLINDERS MIRROR SMOOTH THIS MODERN WAY

THE Ultimate IN PRECISION GRINDING - POLISHING



Model "HS" Grinding and Polishing Machine. Taking cylinders up to 38" circ. x 52" face.

These machines are precision built in two standard sizes. Grinding and polishing is done with special "Intaglio" stones using water as a coolant, thus eliminating all dust. The resulting finish is finer than obtainable with paper and is completed in half the time. The grinding and polishing stones are mounted on a chuck plate which is attached to a spindle having a combination concentric and eccentric motion. The eccentric motion actually shears off the grain or roughness, leaving a smoother surface than is obtainable otherwise. The concentric motion combined with a special adjustable "floating" action is used for finishing the cylinder to a smooth, highly polished surface.

Each machine is completely wired and run on a semi-production basis before it is shipped to the customer. Extensive periodic inspections are carried on during this interval to assure years of trouble-free operation.

Additional details on "Intaglio" stones furnished on request.

STANDARD PROCESS CORPORATION

28 Years of Quality and "Know-How"

Manufacturing Gravure Equipment and Supplies

2704 WEST ROSCOE STREET
CHICAGO 18, ILLINOIS

operation on a number of newspapers. He said he selected what he considered the best points from other systems and incorporated them into the *Star-Tribune's* operation.

One of the early steps in establishing the system was to make up a 100 page instruction book for guidance of workers so that everyone would be following a uniform procedure. Dispatch room employees are also started out as messengers to acquaint them with the operation.

A system of numbering ad copy as it is received and processing of ads on a strictly numerical basis, regardless of advertiser, are part of the system. It means, he stated, all advertisers are receiving equal service. Copeland related that the numbering system helps tie together copy, cuts, mats, etc.

The speaker also reported the system has made it possible to drop ad reconstruction charges and has made possible savings in overtime. Two sets of proofs are the maximum provided each advertiser. He was highly optimistic about the system and related advertisers have been enthusiastic over this method of handling their copy.

Copeland was queried about deadline violations and replied he received a weekly report concerning such violations which average about six or seven such cases a week. He was also asked about late corrections. No corrections are permitted on day of publication under the system except on food ads or under extreme emergency conditions. The dispatch room at the *Star-Tribune* is operated under the production department—not the advertising department.

Machinists' Meet

(Continued from Page 67)

a fluid substance when in the molten state, possesses the property of being able to penetrate into the smallest scratch in a spaceband sleeve. This starts an oxidizing action which is built up progressively during use and also permits type metal to adhere tenaciously to the exposed casting point of the spaceband sleeve. The only remedy is to properly clean and polish spacebands more frequently and at the proper intervals.

There was some comment concerning too few bands in the spaceband box which permits more frequent rotation through the machine and consequently builds up a higher temperature on the spacebands. This, it was asserted, aggravates the building up of oxide deposit on the spaceband sleeve and eventually causes crushing in of the matrix side walls.

Panelist Chalifoux stated that in his opinion the best preventive for this sort of trouble is to (1) Maintain tight justification of the matrix line, (2) Adjust both the front and back lockups against the mold in proper parallelism with the mold. He asserted that the front or matrix line lockup is just as important as the pot mouthpiece lockup. His third observation was that the temperature of the mouthpiece should not be too high.

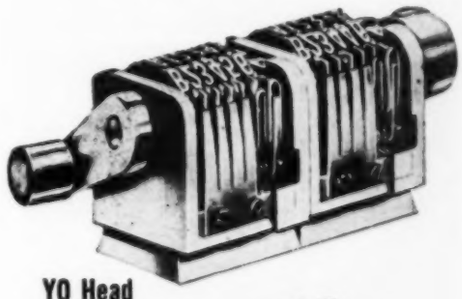
William Hamilton feels that under TTS operation from 22 to 24 spacebands in each machine will provide enough aeration so that the spacebands will not become too hot. In manual operation of a machine there is no likelihood that the spacebands will cause trouble provided machine adjustments are kept in good order.

Chalifoux then observed he doesn't think air cooling of spacebands would help to keep the building up at the casting point of the sleeve to a minimum.

George Bolton, chief machinist, South Bend (Ind.) *Tribune,* thinks most of the trouble with spacebands building up on the sleeves at the casting point is caused by imperfect front lockup. He observed that in his plant, each set of spacebands on TTS operated machines is cleaned three times daily during each shift. He recommends 20 spacebands be placed in TTS operated machine spaceband box. He observed that when 30 spacebands are used some of the last to be transferred into the box seem to either hang on the spaceband lever pawl or may twist sideways because there isn't enough throw to permit them sliding down the box rails by momentum.

Bolton observed that in the *Tribune* plant he breaks in a new set of spacebands on manually operated machines before putting them into TTS operation. The reason is that he feels the spaceband surfaces are a little rough and bear the grinding wheel marks to which type metal will adhere tenaciously under high speed operation. When asked how his spacebands are cleaned and polished, he stated that in his plant a pine board and dry

Tickets to profitable numbering...



YO Head

DUG Head

Force rotary numbering heads

Keep the presses rolling on ticket and coupon jobs because they're precision-engineered for accurate numbering at high speed. These center-driven heads provide maximum versatility in single and multiple set-ups . . . and stand up under the stresses and pressures of long runs. They are machine-finished to the highest manufacturing standards—operate like watches, interchange freely and register with ease.

Write for Force Rotary Head Operating and Maintenance Manual

WM. A. FORCE & CO., Incorporated
216 Nichols Ave.
Brooklyn 8, N. Y.

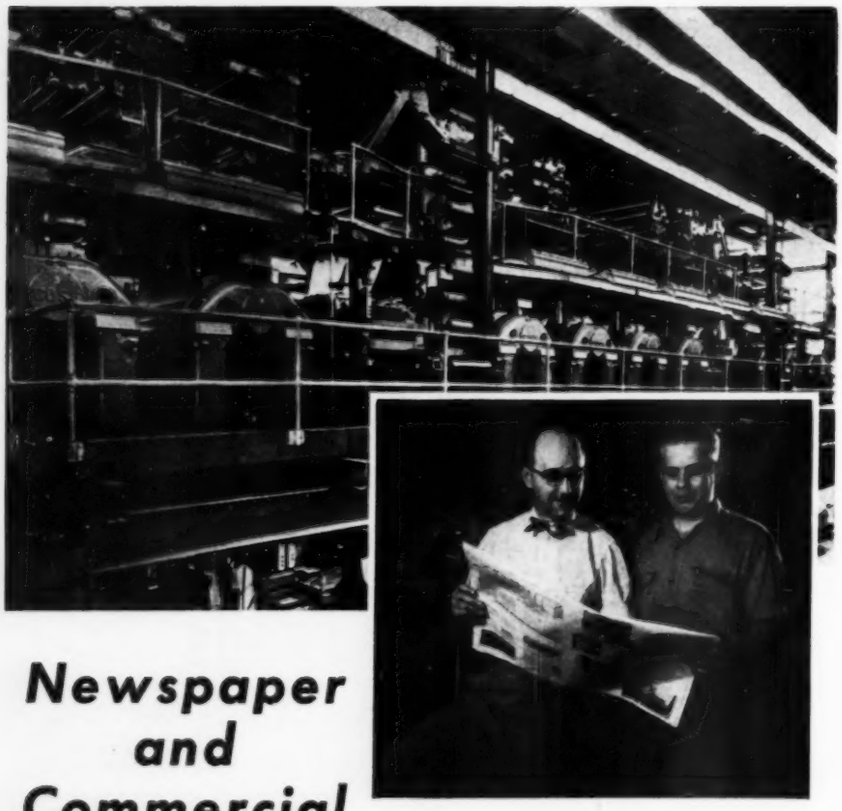
graphite with hand cleaning is used. He also stated he likes the top surface of the justification lever bar to be a little rough so as to avoid spaceband slippage and the consequent bending of the spacebands.

Anderson remarked that on one occasion he got some new spacebands from the factory which were magnetized. Iron filings clung to the sleeve and band surfaces and caused great difficulty in justification and had a bad effect on the matrix sidewalls. The trouble was discovered and the spacebands were demagnetized.

Harold Johnson, chief machinist, Columbus (O.) *Dispatch*, asked if it was injurious to add too much flux to type metal when remelting. Coulson said neither the wax nor powder types of flux will stay in suspension in the metal. For economy reasons there is no point in using too much flux.

Anderson requested Coulson to comment upon the introduction of aluminum foil, bottle caps and such as contaminants in type metal. Coulson said that these materials are not as vicious as zinc but should be kept out of the metal.

Someone in the audience asked what to look for in testing for square lockup of the mold with the vise jaws. Parallel alignment can be tested with the use of blocks obtainable from the supply companies, or by a thin feeler gauge blade. (See *Front Lockup*, by Walter Severin, March, 1955 issue of *Printing Equipment Engineer*.) Also, the eccentric for regulating the forward advance of the mold disk should be properly adjusted. At this time, also check the mold banking blocks which only function during ejection of the slug to see that they are not interfering with mold-vise jaw parallelism, and also support the mold during ejection.



Newspaper and Commercial Printers prefer ZOMO ELECTRIC ZINC

Precision gauge, uniform composition, and exclusive machine-cut surface guarantee photoengravings of greater contrast and higher fidelity stereotypes, electrotypes and mats.

"Better Plates for Better Printing"

ZOMO ZINC, the all purpose, high quality smooth etching metal.
A-Z ALLOY, toughest zinc made for direct printing and extensive mat molding.
OWL BRAND, a non-buckling, smooth etching, medium tempered zinc alloy.
MICRO-METAL, superfine grain zinc for powderless or conventional etching.
ZOMAG, the ideal lightweight magnesium alloy for conventional or powderless etching processes.

See our ad on MODERN LETTERPRESS in the February, 1957 issue of Advertising Requirements.

PE-R&S

Carbide Tipped Saw Blades

Chairman Gardiner exhibited a 36 tooth carbide tipped composing room saw blade. He related his experience with carbide tipped saw blades. He stated that the blades are operated in the *Star-News* composing room from 1½ to 2 yrs. without sharpening. He also mentioned that before using carbide tipped saw blades it was necessary to change blades on one saw-trimmer three times daily. In this instance the saw was used for cutting up strip material into labor saving lengths. He also mentioned that by keeping an oil film on the blades they last much longer between sharpenings.

Harold Cook reported two new carbide tipped saw blade sharpening methods. The first of these is a diamond grinding wheel which is being developed by his company. The other consists of method for sharpening by "reverse" electrolysis—that is, the tooth edges are disintegrated rather than added to as in electroplating. It is expected that both processes will be perfected within six months. Cook also reported that if both processes are successful the price of blades no doubt will be lowered.

Harold Johnson described the use of carbide tipped blades in the Columbus (O.) *Dispatch* composing room. The blades are purchased from a local concern. This company also services the blades. Both use of the blades and the sharpening service rendered are very satisfactory.

It was reported by Composing Room Supt. C. Frank Mann, Louisville *Courier-Journal* and *Times* that 26 carbide tipped saw blades are in use in his composing room.

George Bolton, in reply to a remark that carbide tipped blades grab, stated that the work must be locked tightly in the workholding vise. The work to be cut must not be moved too fast against the blade, or with a chopping motion. If the chopping motion is too severe, one or more of the carbide tips may be knocked off the teeth.

Royal Rager, stereo superintendent, South Bend (Ind.) *Tribune*, said he has had a saw on a Wood Pony Autoplate for two years. It has performed satisfactorily. He also remarked that on a saw in the stereotype department the operators cause more trouble than the saw itself.

In connection with the use of carbide tipped saw blades some comment was made that the use of the Brett plastic saw guard would eliminate possibility of personal injury.

It was the consensus of opinion among those attending the meeting that carbide tipped saw blades save time and do good work. Their performance is superior.

Pot Mouthpiece Temperature

Some discussion took place on how to determine the temperature of metal pot mouthpieces. This adjustment is becoming more and more important everyday, especially in relation to casting display slugs and for

operation of high speed TTS machines.

It was suggested that there are two contact pyrometers which have proved satisfactory for this purpose. One is called an oven pyrometer and is made by General Electric Co. and can be obtained from the Industrial Div. The contact elements consist of two wires. The other is a General Electric pyrometer No. CC500 which can usually be obtained from Graybar Electric Co. In the case of both pyrometers, the user is advised to check each use with an ordinary accurate thermometer at room temperature. Otherwise, the pyrometer reading will not be accurate.

Packless Mats

(Continued from Page 51)

thing in his power to eliminate roller bottoming trouble and to help in improving the printing qualities of stereotype plates.

Co-chairman Tookey commented that last year his paper had used 3500 Wood No Pack mats in casting plates which were used in regular editions of the Flint (Mich.) *Journal*. Good results were obtained. He commented that his plant is equipped with Goss Headliner Presses, tension plate lockup, and hard packing on the impression cylinder. Tookey also explained that in the *Journal's* composing room all form elements are held as closely as possible to 0.918 in. with the exception of the illustrations which are mounted not more than 0.006 in. over type high. Tookey also explained that in the case of a packless mat the molding combination must be held to minimum thickness and that is the reason why type elements in the form must be reasonably accurate. He also commented that any bubbles close up under the printing surface of type as well as low type material will cause imperfections in molding the packless mat. He explained his form molding procedure. He is of the opinion that packless mats are coming more and more into use in newspaper plants and that in spite of manipulating troubles packless mats are here to stay. However, he feels that more than 0.043 in. depth in a non-printing area is essential for the pressman.

Terrance Mahan, stereotype superintendent of the Akron (O.) *Beacon-Journal*, arose to ask Co-chairman Tookey: "What is a properly molded mat?" Tookey replied by stating that a properly molded mat is hard to define but in general he said it is a mat which will produce an all over level stereotype plate. Or, in other words, one that will reproduce what is in the form.

Now 100% On Mat Pak

Edward Griesmeyer reported that the Cincinnati (O.) *Enquirer* is now 100% on stereotype ANPA Mat Pak molding. There is no complaint from the pressroom regarding printing qualities of the plates cast from the mat. He did state that at first the impression cylinders on the presses had to be changed for the new plates. He feels that the improved Mat Pak method is a challenge to all production men. Griesmeyer reported that even in occasional instances where form elements go down approx. 0.003 in. during molding pressure that it doesn't seem to make any difference when Mat Pak is used because the mat will pick up the difference so far as printing quality is concerned. Griesmeyer reported that for the month of November 1956 the *Enquirer* printed 180 pages more than in the corresponding period in 1955. The total payroll for the period was $106 less than for 1955. He made it clear that these figures only represented labor costs. During the year there had been an increase in the labor scale but no one had been laid off, according to Griesmeyer.

Pressroom Supt. LeRoy Schulz, Milwaukee (Wis.) *Journal*, reported that the *Journal* is partly on Mat Pak. To illustrate the conditions under which the pressroom operates, Schulz explained that Stereotype Supt. Harry Wrasse does not tell him (Schulz) how many plates have been cast from Mat Pak and how many from the standard stereotype mats until after the edition has been completed. Schulz remarked that probably the *Journal* would eventually go 100% to packless mats. He also remarked that if inking rollers and impression are set properly on the press the paper can be printed properly.

Earl Weiskittel, pressroom superintendent of the Youngstown (O.) *Vindicator*, arose to state that the

for the best impressions...

Tingue, Brown Blankets & Drawsheets

CONTROLLED IMPRESSIONS
CLEAR IMPRESSIONS
SHARP IMPRESSIONS
plus
Controlled Gauge
Controlled Resiliency
Reduced Plate Wear
All Gauges For Your Press

"Combino" Top Blanket—.080 to .095 also—.062 & .072
"Top" Drawsheet—.025 to .030
Cushion Cork—.050 to .085
Tingucork—.050 to .085 (A firmer cork)
Grip Cork—.062 to .083
Foundation—.050 to .090 also—.032, .040 & .120
(The firm, oilproof base blanket)
Coated Felt—Gold Tympan D.S.
Plain Felt—Improved Satisfaction D.S.
Tingulok*—The fastest, surest method for applying blankets

TINGUE TRADE MARK PRINTING PRESS BLANKETS

TINGUE, BROWN & CO.

"Blanketeers Since 1902"

1765 Carter Avenue • New York 57, N.Y. • CYpress 9-8800
507 Bishop Street, N.W. • Atlanta, Ga. • ATwood 3864
1227 Wabash Avenue • Chicago 5, Ill. • HArrison 7-0083
723 E. Washington Blvd. • Los Angeles, Cal. • Richmond 9-6023

CANADIAN SALES AGENTS ROSS WHITEHEAD & CO. LTD. MONTREAL, CANADA

"dirtying" of the page is the fault of improper roller setting. It is absolutely necessary to take care of roller setting no matter what brand of mat is used. He said he had used a system for setting rollers at periodical intervals for a long time. He feels that packless mats eventually will make the pressman's job easier. He urged all of his fellow pressroom executives to take a look at the pressroom and to adopt sympathetic methods with respect to the stereotyper's problems. He asked: "How many pressmen think of the printing line? How about overpacking the cylinders? How many pressmen think of impression without indentation? If roller bottoming is marring the appearance of the page the trouble may be due to loose blanket surface. For you fellows who don't succeed in printing from packless mat plates what are you doing to get away from printing with mushy blankets? Just take a look at your pressroom procedure for keeping the equipment in good condition."

Sidney Weiskittel, pressroom superintendent, Cincinnati (O.) *Enquirer*, plead for a better understanding of composing room requirements by the pressroom. At the *Enquirer* when Mat Pak was adopted it was found necessary to bring up type and base material to precise measurements. Weiskittel remarked that he feels the stereotyper is the big man to whom we must look in solving our problems, because "he's the man in the middle."

Ferd Mier, stereotype superintendent of the Detroit *Free Press*, in answer to a question from the floor as to what standards in a newspaper plant consist of, stated there are no standards for a particular operation. It is a collective matter. With respect to standards necessary in the printing plates the pressmen must tell the stereotyper what is needed so that he can print the paper properly. The setting of standards is not a matter of personal opinion. He remarked it has taken 30 years to bring the standard stereotype mat up to its present state of perfection. He suggested that the pressmen have a better understanding of the stereotyper's problems and express a willingness to work with him. "Just because you have something new," he said, "with which you have a little difficulty, you complain." He suggested an intensive effort on the part of all concerned in the composing, stereotype and pressroom to get together for the establishment of workable standards.

At this point, Deo A. Padgett, composing superintendent, Forest City Pub. Co., Cleveland, stated: "I've been hearing about 0.918 in. being the standard for all of the elements that go into the form." He said that in his plant and many others the column rule is 0.005 in. below type high, classified rule is 0.002 in. below type high, leader matrices are punched 0.005 in. below type high and in certain types of composition leaders have been eliminated altogether to suit the stereotype department in order to prevent the dots in the leaders punching through the paper.

Mier replied by saying that standards from time to time have to be changed to suit both standard mats and packless mats, whichever is in use. Padgett replied that he feels the stereotype department should give the composing room proper dimensions so that the composing room can cooperate as fully as possible with the stereotype department.

Co-chairman Tookey requested Royal Rager, stereotype superintendent, South Bend (Ind.) *Tribune*, to discuss the initiation of ANPA Mat Pak use in his plant. Rager stated that before starting use of the new method he and his fellow workers thought they were pretty good stereotypers. It was soon found that everybody in the department needed a complete cleanup of methods. Expressing it in another way, Rager stated "You might do well to close up your mind to the fact that you are going to have to be precise."

Rager further related: "When we went to Mat Pak we checked through to see that all of the form elements were 0.918 in. high except we felt we could have a little more compression over halftone areas during the molding operation. All of the rules remained the same height as before adopting Mat Pak methods.

Summary of Packless Mat Usage

Co-chairman Tookey requested Frank Stanczak to make some personal comment at the close of the packless mat discussion. He said: "Summing up what these men have said it is going to take the cooperation of the stereotype and composing

NOW!
TWO ROUSE TIME-SAVING
PLATE SAWS
With Exclusive Automatic Feed
For Photoengravers,
Stereotypers, Printers

No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (on Both Models)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.
2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.
3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.
4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 25 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

Write for complete details TODAY!

H. B. ROUSE & COMPANY
2214 North Wayne Avenue Chicago 14 Illinois

ROUSE PRODUCTS...The Standard of the World Since 1899

departments." He feels it will be necessary to improve equipment maintenance both in the composing and stereotype rooms, inasmuch as 50% error has been found in the composing room and 50% in the stereotype department." It's got to be a team effort," he concluded.

In reply to a final question from the floor, Stanczak said the maximum shrinkage which has been obtained from Mat Pak is 1 1/16 in.

ROP Color Discussion

Chairman Elmer Watson again came to the microphone to preside over the ROP Color Session of the Stereotype Session.

Stereotype Supt. Charles Kirk, Detroit *News,* displayed several proofs of a page advertisement which had been received at the *News* for a prominent cigarette manufacturer. Scattered throughout the open spaces or non-printing areas of the proof were numerous black disks ranging in size from ⅛ in. to 1 in. diam. Kirk said he realized the disks had been put into the plate to help register and prevent distortion in the surface of the plate. But he feels excessive use of the disks is not at all necessary and that they cause considerable routing. He feels that the advertiser's agency overdoes the disk bearer idea. He is in agreement that the larger open areas need support in platemaking and that it is unnecessary to use the smaller diameter disks. Actually, the proof looked like it was afflicted with polka dots.

Edward Johnson of Tenak Products Co. and Dave Rusch of Merchants Matrix both discussed the use of the disks. They were in agreement that there were too many of the smaller disks. They both agreed that the disks do hold register in the body of the plate. The Merchants Matrix representative says that if necessary the disks can be left out. John E. Innis, stereotype superintendent of the Indianapolis (Ind.) *Star-News,* thinks it would be a good idea for commercial platemakers to get together with representative stereotype executives to find methods for securing the best results.

George Fuller, stereotype superintendent, Cleveland *Press,* stated that while he was about to discuss an old subject, yet he wanted to report recent receipt of color advertising mats in which there were no register marks at all. He wanted to know if there wasn't some way in which the commercial plants could check the copy before making the plates.

Ernest Klostermann of Lake Shore Div., Electrographic Corporation, stated, as he has at previous conferences, that the register mark difficulty is caused more from the human element than anything else. His company puts in register marks if none are in the original.

Ferd Mier discussed briefly receipt of three or four color sets of ad mats with depressed areas, along with the set of proofs. In other words, the mats were treated for premakeready process before shipment to the newspaper plant. In reply, Dave Rusch of Merchants Matrix, reviewed the practice of putting premakeready into the mat so as to relieve the highlight areas to permit better printing and at the same time to secure greater impression on the solid areas. He said his company has worked with the Tenanon process and a thinner mat and has learned how to mold the mats to allow for premakeready. To date, these mats are used in 78 cities. Rusch stated that if, in the opinion of the mechanical executives, the process is not correct the company will adjust the method to suit conditions. Ernest Klostermann remarked that in magazine printing the highlight areas in plates are lower than the solid areas.

Elmer Smith, pressroom foreman of the Cleveland *News* stated that on black and white printing of advertisements the pre-makeready mat is needed.

Co-chairman Tookey mentioned he takes off the makeready in such mats because of interference with tension lockup hooks on the press.

Don Clark, stereotype superintendent, Grand Rapids (Mich.) *Press,* remarked he recently had received a plastic plate from an advertiser for a 5 col. advertisement. The plate was approx. 7 col. wide. He remarked there was too much bearer surface around the plastic plate. It was agreed that some dead metal bearer surface should be provided on all four sides of the plate, but not in excess. Ernest Klostermann remarked he would investigate the matter of bearer surfaces around plastic plates so far as his company is concerned. It was felt, however, by a number of those in the audience that a number of commercial platemaking plants do cut plastic plates to size before shipment.

Howard Flint Ink Co.

•Gravure •Letterpress •Lithographic •Flexographic

ATLANTA • CHICAGO • CLEVELAND • DENVER • DETROIT • HOUSTON
INDIANAPOLIS • LOS ANGELES • MINNEAPOLIS • NEW ORLEANS • NEW YORK • TULSA

Knowledge Sharing

(Continued from Page 53)

encountered trouble in changing over the workers from hand to automatic casting. Watkins replied in the negative and said the men like to cast plates on the automatic equipment. He was also queried on punching which occurs when running dinky webs. Watkins believes much of this trouble is due to improper maintenance. He has run a four page tabloid on a dinky web without trouble.

A composing room "bull" session followed in which the non-metropolitan newspaper representatives exchanged ideas while replying to questions posed by Chairman Parker. The questions and their answers are as follows:

Q. Should a small newspaper use page dummies to lay out the paper? A. There were differences of opinion on this practice. One said dummies slow up production and are an unnecessary time consuming operation. Another believed a dummy can be used to overcome about 90% of a paper's headaches. Some follow the practice of dummying the day before publication and leave open pages 1 and 3 for the next day's news.

Q. What material is generally used for underlaying plastic cuts? A. The Ann Arbor (Mich.) *News* makes use of stereotype base plastic plates. Padgett suggested using a red pressboard such as is used on platen presses instead of leads which he considers poor practice. Tape under the plastic plate was also frowned upon.

Q. What methods are used to tell at a glance what ads have received a final OK? A. Ticket systems seem to be the most popular in use.

Q. Does your ad markup man mark all type sizes on the copy or just the machine material? A. Most mark just the body faces unless there is a request for a specific Ludlow face. One newspaper has issued a style book and if an advertiser wants a certain type face he marks it on the copy.

Q. How do most newspapers handle large type sizes necessary in certain ads? A. Many use a service in which they buy large type sizes in mat form. Few use engravings. One newspaper casts up an entire alphabet in a large size and keeps it in a type case for future use.

Q. What is the most important problem in the composing room today? A. Lack of trained personnel and misunderstanding between departments. One newspaper has overcome the latter by initiating a training program in which workers are rotated for experience in the problems of each department. The program has met with good results and has lowered page costs. Another problem, according to a member of the audience, is the practice of the editorial department holding back as long as possible on news stories. This problem apparently is widespread among the small dailies.

Q. What is the average spread between the time copy is due in the composing room from editorial and press time? A. The time allowance varies widely among the small dailies. Some of the answers to this question were as follows: 30 min.; 45 min.; 1 hr., 45 min.; 2 hrs.

Q. With late advertising copy for the next day's publication, do your ad alley compositors work overtime, or have you overcome this problem by having a small night crew? A. Many of the newspapers represented do not have night shifts. The problem apparently is disposed of on some dailies by 48 hr. deadlines on ad copy.

Q. Who decides whether or not to accept late ads? A. It is usually decided by consultation between advertising and composing room heads. On some papers it is the decision of the composing room superintendent.

Q. What are the causes of a heavy touch on the keyboard of Teletypesetter tape perforators? A. This can be attributed to three reasons, as follows: (1) A dirty machine; (2) Improper lubrication; (3) Faulty adjustments on the machine. This may also be a psychological condition in which the operator thinks someone has tampered with the touch adjustment. Teletypesetter Corporation representatives present reported development of an electromagnetic clutch trip which will lessen the touch by 17% on perforator keyboards and is designed to prevent an operator from hanging up the keyboard. It will soon be available to TTS users.

Looking For More Profits?

MORE PRODUCTION
with less fatigue!

The NEW RAR-1
WESEL ROUTER

★ Easier to Operate
★ Longer Lasting
★ Lower Maintenance Costs
★ No Belt Shifting
★ No Arm Drag

While the Wesel router is built for heavy duty and longer life it is one of the easiest routers to operate. No arm drag and no belts to shift! The resulting reduction in operating fatigue increases production and profits. The exclusive Wesel design eliminates most of the maintenance problems usually encountered with machines of this type. Make your next router a Wesel RAR-1. Plan to retire your old equipment now!

MANUFACTURERS TO THE GRAPHIC ARTS INDUSTRY

Router Bits

Saw and Trimmers

Write for descriptive literature today

WESEL MANUFACTURING CO.

1141 N. WASHINGTON AVENUE SCRANTON, PA.

Since 1880

Flexography

(Continued from Page 49)

would be for you to furnish your customer with a web section of the press run. A brief analysis of this sample would reveal the following by comparative drawdowns with your standard:

1. Color strength
2. Viscosity
3. Adhesion
4. Drying rate
5. Resistance to rub, scratch and flaking.

If this report is added to the file in advance of the press run, it would serve to: (a) Prevent substandard ink consuming unwarranted press time; (b) Supply the pressman with advance knowledge of ink properties; (c) Aid the pressroom foreman in demanding commensurate quality. It can be readily understood that, if an ink isn't right for the job concerned, the least aggravating or costly time for making corrections is *before* and *not during* a production run.

Your pressman culls web samples from the first printed roll and thereafter as he sees fit. Tests on the ink film are made and these, too, should be added to the file so that all future prints of the current or subsequent runs may be checked against them.

The production report itself can be obtained by the filling in of a general information form that is printed on the outside of the envelope. Required information would include:

1. Press number
2. Paper pounds used
3. Ink pounds used
4. Pounds of solvent used
5. Type of solvent used
6. Temperature of heat on the press
7. Application of air
8. Number of plate impressions
9. Temperature and humidity of pressroom
10. Amount of paper and ink not used
11. Waste
12. Condition of printing plates for re-run
13. Pressman's comments on production performance.

We have checked at an earlier stage the uniformity of material standards checked for procedure of past performance. We have lessened the possibility of first discovering substandards when the job is on the press. It may be seen, therefore, that instead of only comparing a final product with the previous final product, we now bring to a press startup more information than could otherwise be remembered.

(To Be Continued)

News ITEMS

Wood Joins Mergenthaler — W. H. Wood, founder of the Harris-Seybold Co. research laboratory and its director of research for 20 yrs. prior to his recent retirement, has joined the Mergenthaler Linotype Co. as research consultant. Wood will serve as consultant to Mergenthaler and its subsidiaries on Graphic Arts products and processes.

Rosene to California—Al Rosene, who has been production manager of the St. Paul (Minn.) *Dispatch* and *Pioneer Press*, has resigned that position. He will take up new responsibilities with the San Jose (Calif.) *Mercury News*. In appreciation, his many associates, friends and prominent people in the industry plan to pay tribute to Rosene at a testimonial dinner which is scheduled for Saturday, February 23 in the ballroom of the St. Paul Hotel. Rosene is a successful administrator. He also was one of the guiding lights of the

Northwest Mechanical Conference held annually in the Minneapolis-St. Paul area.

Ortman - McCain Appoints Turk—Appointment of Carl A. Turk to assistant general sales manager of Ortman - McCain Co. was announced by Arthur C. McCain, general sales manager. Before joining the firm in 1955 as salesman, he was with Filmotype Corporation and Graphic Art Service Co.

TURK

Heidelberg Eastern's School—William Savage, manager of Heidelberg Eastern's Columbus, O., office announced that a pressman's school for Original Heidelberg platen presses will be opened on Jan. 14 at 135 Sixth St., Canton, O. The free classes are open to everyone in the Graphic Arts industry, and are scheduled to be in operation for a period of from three to four weeks.

Aigner Index Doubles Space—The Long Island City, New York building located at 44-16—23rd St. purchased by Aigner Index Co. will double its present space, according to J. George Aigner, president. The company planned its move for January.

Two Executive Posts Filled—Two executive sales posts were recently created for increased sales of American Type Founders' Sheet-Fed and Web-Fed Divisions, it was announced

PORTER WEBENDORFER

by William W. Fisher, jr., president. John Porter was named assistant sales manager of Sheet-Fed Press Div. Porter was formerly assistant to the sales manager of Web-Fed Press Div. and joined ATF in 1948. Henry Webendorfer was named assistant to the sales manager of Web-Fed Press Div. and Joined ATF in 1948. Henry Webendorfer was named assistant to the sales manager of Web-Fed Press Div. He joined ATF 18 yrs. ago and was most recently regional sales manager of ATF's Central States District office.

Ideal 20 Yr. Men Honored—Both the Eastern and Western Divisions of Ideal Roller & Mfg. Co. gave 20 Yr. Dinner Parties in January to honor those employees who have been with the company 20 yrs. This year Alvin F. Freund, W. Earl Murphy and Stanley Prokop of the Chicago Division and George H. Stiteler of the Long Island City Div. will receive their 20 yr. watches.

IT'S HERE
New Light Magic
for the MODERN CAMERA GALLERY
Now a mechanically simplified lamp has been designed and engineered to provide a better light source at a price within the reach of even the smallest shop. When
THE NEW GRAFARC CHALLENGER CAMERA ARC LAMP
is energized, a rugged, new type dual function motor instantly advances the carbons, strikes the arc, backs up the carbons to establish the correct arc gap length, and steadily feeds the carbons at a rate which maintains the proper gap throughout the burning of the trim. Its action is sensitive to both current and voltage conditions at the arc, and automatically compensates for any variables in the burning rate of the carbons. Ample motor size insures reliable drive of the carbon feeding mechanism at all times. The multiple function of the motor insures quick setting of the arc making the Challenger particularly adaptable to accurate exposures of as short as five seconds.
New finger tip control automatically separates the carbon holders to full expanded length for insertion of new carbon trim.
Obsoletes Clutch and Manual Return
TWO MODELS: One burns Photo 88 copper-coated carbons at 75 amperes, 25 volts at the arc, and the other Photo 118 copper-coated carbons at 110 amperes, 28 volts at the arc. Both are high intensity vertical trims which burn up to 1½ hours.
A connector cord and plug assembly eliminates the possibility of error in connecting the lamps to the power supply. Two receptacles in the transformer housing permit
Dual Lamp Operation From One Transformer
Readily mounted on most cameras. Also furnished double decked with counter-balanced support.
See your Graphic Arts supply dealer or send today for free literature on the complete line of Challenger and Grafarc camera and printing arcs and lamps for Monotype Huebner MH photo composing machines.
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Opens First Cylinder School—Applications numbering 114 were received during the first week of registration for the first cylinder school recently held by Heidelberg Eastern, Inc., 73-45 Woodhaven Blvd., Glendale, L.I., N.Y. The school is under direction of Donald Conradsen, who is head demonstrator at Heidelberg Eastern, Inc., and provides training in operation of the 21 in. by 28 in. Original Heidelberg cylinder press. Conradsen is shown here presenting certificate of graduation to R. Reinhold of Lenz-Reicker, upon completion of the evening cylinder pressmen's course.

The Buck Printing Co., Boston, recently announced installation of a Miehle 41 Two Color Offset press. This is the the second press of this type for Buck, who also has in operation Miehel 61 and 76 Offsets, manufactured by Miehle Printing Press & Mfg. Co. Pictured inspecting a sheet from the new press are: Hamilton Reilly, vice president of the firm; Russell G. Reilly, sr., treasurer, and Douglas Reilly, general manager and assistant treasurer.

Hamilton Names Kruecke — Appointment of R. R. Kruecke as sales representative for Hamilton Manufacturing Co.'s Professional and Industrial Divisions was announced recently by W. A. Friedrich, vice president in charge of sales. Kruecke will represent Hamilton in Ohio, Kentucky, Indiana, and lower Michigan.

KRUECKE

Three 3M Changes—Changes in sales assignments for the printing products division have been announced by Minnesota Mining & Mfg. Co. as follows: K. B. Murphy was named sales manager for the St. Paul, Minn. branch for sales in Minnesota, Iowa and the Dakotas. Harvey M. Michelson was named Chicago sales manager for the northern Illinois, Wisconsin and Indiana territory. Edward W. Archbold was named sales supervisor at the Cleveland branch, with responsibility for Michigan, Ohio and Kentucky.

MILLAN

Appointed Factory Representative—Jared C. Millan has been appointed the New York factory representative for The Printing Machinery Co. Millan attended the Technical Trade School, Pressmen's Home, Tenn., before his training period at PMC's factory

Production Manager of New Paper—George L. Hurst, with the Houston (Tex.) *Chronicle* for the past 7 yrs., has been named production manager of the Bryan (Tex.) *Twin-City Star*, Bryan's new daily newspaper scheduled to begin publication in March. According to Paschal Price, publisher, Hurst will be responsible for the layout of the printing plant, installation of machinery and hiring of shop personnel.

C-O-Two Systems Branch—A branch office in Detroit was recently opened by the C-O-Two Systems Div. of the Fyr-Fyter Co. The Detroit office will provide service in the area covering Michigan, Indiana, Ohio and Kentucky. The Detroit office is the fifth of the C-O-Two Systems Div. branch offices to be established.

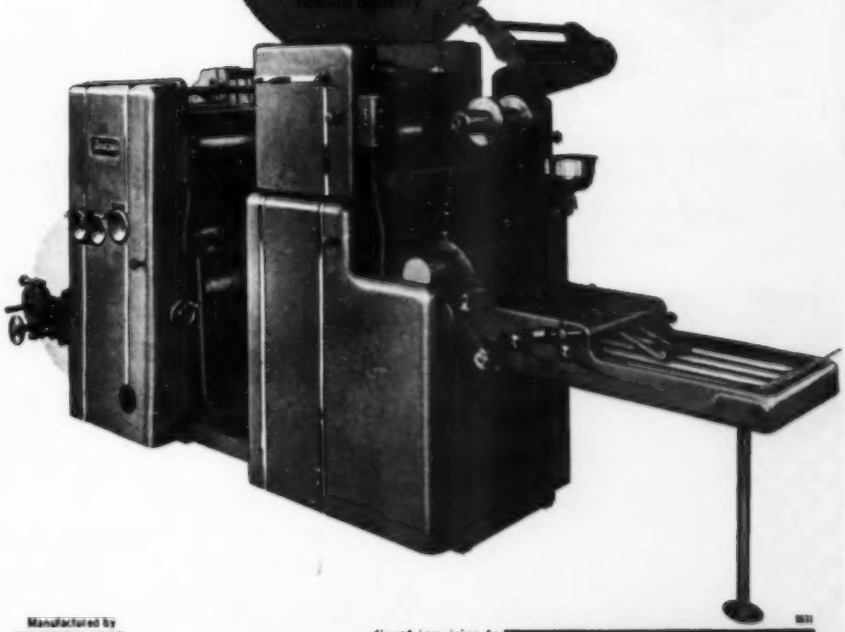
Hartley Elected President—Carlton Hartley, president of Hartley Printing and Pub. Co., was elected 1957 president of Printing Arts Assoc. of Columbus (Ohio) by the board of directors at the board's organization meeting in January. Selected as vice president was Richard Thrall of Stoneman Press, with Del Nida, Nida-Eckstein Printing Co., elected treasurer. Reid Vance continues as executive secretary. Members of the board of directors in addition to the above officers are William Planson, Trowbridge Printing Co., immediate past president; Shel Finley, Nitschke

Mr. Printer! Want increased profit margins?

get them with Speed Flex equipment!

It's not how much volume you do but how much profit you make that tells the real story of your business prosperity. So doesn't it make sense to investigate *Speed-Flex*, the printing press that produces better quality at up to 6 times the speed of other sheet fed presses?

Investigate the *Speed-Flex* line. There's a whole family of high production, multiple operation equipment that will help you get more profits. And the brand new *Speed-Flex* offset press with a world of time-saving, profit-making features is the latest addition to the line. It's easy to own, too! Write for information on this sensational new press and other *Speed-Flex* equipment.



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ROTHEMICH DAVIES SPITZER LANE

Rothemich Named Interchemical Officer—William J. Rothemich has been elected a vice president of Interchemical Corporation. He has been divisional president of both R-B-H Dispersions Div., and most recently, Textile Colors Div. William N. Davies, former vice president and Eastern district manager of Interchemical's Printing Ink Div., succeeds Rothemich as head of the Textile Colors Div. Francis A. E. Spitzer, formerly secretary and head of Interchemical's legal staff, was named vice president of its International Division. Kenneth B. Lane, will succeed Spitzer.

Printing & Litho Co., last year's treasurer; J. B. Heckert, president, Columbus Blank Book Co., and Hugh Mooney, Columbus Printing Ink Co., representing the supply members.

Hoe Announces Increase—Joseph L. Auer, president of R. Hoe & Co., Inc., recently reported that the company's backlog of orders on Nov. 30, 1956 amounted to $13,940,000, as compared with $11,791,000 on the same date last year. Auer also announced that the board of directors had voted the regular quarterly dividend of 25c per share on the $2.50 par value cumulative Class A stock, payable Jan. 15, 1957 to stockholders of record Jan. 7.

Marla Distributor—Harry H. Rogers Co., Inc. has been appointed exclusive distributor for Marla open gear spray lubricant, manufactured by Rothlan Corporation. Marla is used for cams, reciprocating actions, mono rails, guides, chains, sprockets and cables.

American Wood Type Moves—Rube Mandel, president of American Wood Type Mfg. Co., announced a move to expanded quarters at 42-25 Ninth St., Long Island City 1, N. Y. The fireproof concrete and steel building is constructed with 35,000 sq. ft. of floor space.

General Electric Appointment—James G. Rebeta has been appointed manager of production and distribution in the General Electric Co.'s Public and Employee Relations Services. Rebeta has responsibility for procuring and co-ordinating production, distribution and stock control of publications and printed materials for all components of the division, both in New York, N. Y., and Schenectady, N. Y.

Miehle-Dexter Sales—According to a joint announcement by Carlton Mellick, vice president for sales, Miehle Printing Press & Mfg. Co., and W. S. Reed, Dexter Folder Co. division vice president for sales, Miehle will act as agents for the sales and service of Dexter products in the West Coast, Northwest and Southwest territories. Sales headquarters are maintained at present in San Francisco; Los Angeles; Seattle, Wash.; Denver, Colo.; Dallas, Tex. and New Orleans, La. Dexter bindery specialists will be available to the Miehle sales staff for assistance on matters concerning bindery equipment and operation. Thus, plants using both Miehle and Dexter equipment will have a single contact for sales or service.

Ask *Printing Equipment Engineer* to help you find it.

PMC STERLING TOGGLE BASE

Precision ground to give an accuracy unequalled by other methods of machining PMC Sterling Toggle Base in magnesium or semi-steel simplifies lock-up—saves time—increases profits.

THE PRINTING MACHINERY CO.
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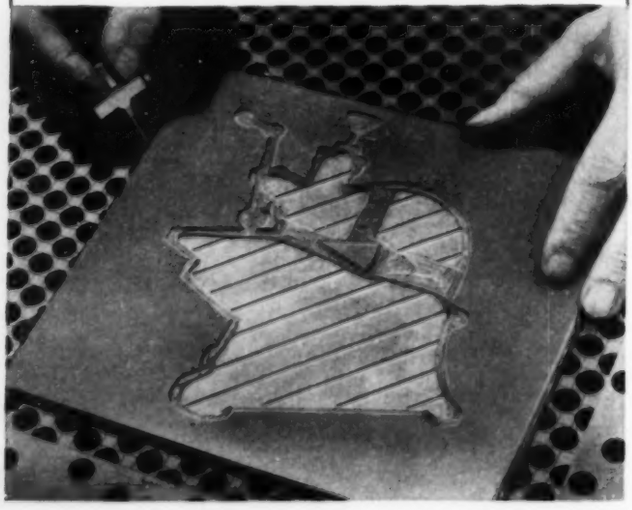

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Sales Agents { The Goss Printing Press Co., Chicago
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Expanded Facilities for National—Charles Winters, vice president of National Numbering Machine Co., Inc., announced that his firm vacated quarters in Manhattan, moving to expanded and modern facilities in Long Island City. Move took place in mid-January and the address is 42-25 Ninth St., Long Island City 1, N. Y.

Worthington Address Change—Emory W. Worthington and Associates, an engineering and consulting service, recently moved from York, Pa. The new address is Rd. 1, P.O. Box 127, Honey Hollow Rd., Pound Ridge, N. Y.

Linotype Production Engineer — Robert K. Yeomans has been appointed production engineer for Mergenthaler Linotype Co. in the company's New York agency. His territory consists of District of Columbia, central Maryland and south-central Pennsylvania.

YEOMANS

W. A. Dwiggins Dies—A designer of American classic typefaces, William Addison Dwiggins, died Christmas morning at his home in Hingham, Mass. Death came within three months after that of Chauncey H. Griffith who first brought Dwiggins into the field and who worked closely with him for 25 yrs. Dwiggins designed the Metro series, Caledonia, Electra, Eldorado, seven other book types, and at the time of his illness was busy on several other new faces. All were done for Mergenthaler Linotype Co.

Merge At Annual Meeting—Graphic Arts Educational Foundation, Inc. and Graphic Arts Industry, Inc., both of Minneapolis, recently voted for merger of the two organizations. Officers of the merged group are: C. E. Johnston, Beloit, Wis., president; F. C. Schilplin, St. Cloud, Minn., first vice president; Birger Swenson, Rock Island, Ill., second vice president; Paul J. Ocken, vice president, secretary and general manager; Bruce J. Nelson, EauClaire, Wis., treasurer. The name of the merged corporations will be Graphic Arts Industry, Inc.

One of the features of the annual meeting was the presentation of the Gold Key of the Society of Beta Alpha Gamma, Honorary Management Engineering organization in the Graphic Arts Field. Shown (left to right): Paul J. Ocken presenting the Beta Alpha Gamma award to Fredric C. Schilplin, publisher of the St. Cloud (Minn.) *Times*. Walter A. Strong, publisher of the Beloit (Wis.) *Daily News*, receives the Beta Alpha Gamma award from Clinton E. Johnston.

Battelle Names New Director—Dr. Clyde Williams, president of Battelle Memorial Institute, announced recently that the board of trustees has appointed Dr. B. D. Thomas as the Institute's new director. He succeeds Williams (who remains president) in the management of Battelle's extensive research operation in United States and Europe.

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Profit records for YOU . . .

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2 folded signatures (from a single sheet fed into Folder) now come out where one came out before—of course in 1 automatic operation. And . . . from a single sheet fed into the Folder—you can have two separate sheets collated and folded together . . . of course in 1 automatic operation.

Thanks to you for ordering $50,000,000. of BAUMFOLDERS, volume production keeps prices down . . . even in these days of high labor costs and high material costs, you can still install a 17½ x 22½ Automatic Bindery complete in one compact life-time "Gold-Mine" . . . that folds; cuts; scores; perforates; collates, etc., etc. for only $85. initial and $47. a month. It will pay-for-itself many times over before you pay for it. No finance charge . . . just simple interest. And other sizes comparable pay-for-itself terms . . . 14 x 20" or 22 x 28" or 25 x 38" or 31 x 46-60".

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615 Chestnut St., Phila. (6) Pa.

P.S. Someone said,—"he benefits humanity who makes 2 blades of grass grow where one grew before."

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SAWS • ROUTERS • MORTISERS

Stereotype Saws Three Sizes

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Special Routers Built To Order

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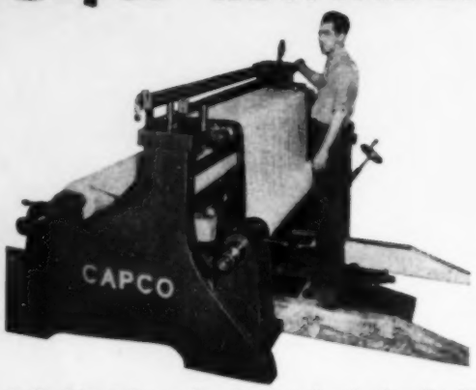

- Rolls lifted from the bottom by hydraulic lifts. No overhead lift.
- Low splicing table at operator's side for easy accessibility.
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- Slitter cuts damaged paper from full roll to ¾ size or ¾ to ½ size saving up to 75% of damaged roll.
- Rolls, out of round, can be rewound thereby increasing production by not having to slow press to accommodate jumping roll.

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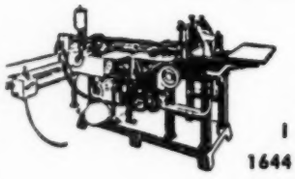

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Self Advertising Contest Sets Competition Dates

Plans are now underway for the Sixth Annual Printing Industry of America, Inc., Printers' and Lithographers' Self-Advertising Exhibition and Awards. Entry blanks and instructions are being mailed by the Miller Printing Machinery Co., Co-sponsors with PIA.

Closing date for entries is Sept. 13, 1957. Competition is open to all letterpress, lithographic, gravure, silk screen and allied process printers in the United States, Canada, and the Hawaiian Islands, whether they are members of PIA or not. Material submitted must be from advertising programs completed during the period from Sept. 28, 1956 to Sept. 13, 1957.

Awards will be announced at the annual breakfast sponsored by Miller Printing Machinery Co. to be held during the PIA convention set for Oct. 15-18, 1957 at the Morrison Hotel, Chicago.

For further information or entry blanks regarding the contest, write to Printing Industry of America, Inc., 5728 Connecticut Ave., N.W., Washington 15, D.C., or Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa., or Miller Printing Machinery Co. of Canada Ltd., 730 Bay St., Toronto 2, Canada.

Gravure Research Elects

The board of directors of Gravure Research, Inc. recently announced election of the Denver (Colo.) *Post* to active membership and Electric Eye Equipment Co. to associate membership. The nonprofit research organization is engaged in an intensive program aimed at improving gravure color reproduction processes, and the performance of rotogravure printing presses. Its laboratories are located at 282 Seventh Ave., New York, N. Y.

Printing Equipment Engineer will help you find where 'tis made.

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LETTERPRESS • OFFSET
GRAVURE • FLEXOGRAPHIC

HIGH SPEED PRODUCTION
ECONOMICAL OPERATION

25 Years **DRYER** *Experience*

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168 N. Michigan Ave. Chicago 1, Ill.

KEEP SAWS SHARP AND TRUE . . .

Right in your own plant!

Save time and money by doing your own filing and swaging. Complete accuracy attained through the use of an Automatic Saw Filer and an Automatic Saw Swager.

Write today for complete information

TESCH MANUFACTURING CO.
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FULL COLOR • BLACK & WHITE

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WOOD DRY MATS
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Literature

(Continued from Page 26)

SCOTT PRINTING UNITS

A booklet descriptive of Walter Scott & Co. printing press units is now available. Counterbalanced cylinders, oversized journals, mounted in roller bearings, are said to provide maximum rigidity. Other features are described. For a copy, please mention PEE No. 195L in your request.

Bindery

FOLDING MACHINE

Breakthrough in the Folding Machine Field is the title of a 6 page, illustrated folder produced by American Type Founders. Described is the ATF-Camco knife folder with up to 4000 sheets per hr. output. Also described are folders from 32 in. by 42 in. to 52 in. by 76 in. For a copy, please mention PEE No. 196L in your request.

FOLDING, STITCHING, TRIMMING

Circulars have been made available by Dexter Folder Co. which are descriptive of its Cleveland Folder, Christensen Gang Stitcher and McCain Automatic 3 knife Trimmer. Circulars are illustrated and contain specifications. For copies, please mention PEE No. 197L in your request.

Miscellaneous

EASTERN CATALOG

Equipment and supplies for newspaper printing production in the composing room, stereotype department, pressroom and photoengraving department are illustrated and described in Eastern Newspaper Supply, Inc.'s catalog. For a copy, please mention PEE No. 198L in your request.

STEEL FLOOR PLATE

Algrip, Alan Wood Steel Co.'s abrasive rolled steel floor plate, is the subject of A. W. Algrip Booklet AL-830. Algrip is made of a grinding-wheel type of abrasive rolled to a controlled depth in steel plate. It can be used as an overlay or as independent flooring. For a copy, please mention PEE No. 199L in your request.

MOISTURE CONTENT MEASURING

Instruments for measuring moisture content of hygroscopic materials are described and illustrated in Cambridge Instrument Co., Inc.'s Bulletin M 353. Included are the Cambridge paper hygroscope for lithographers and the moisture indicator for lithographers and paper mills. For a copy, please mention PEE No. 200L in your request.

MORRISON EQUIPMENT

The Morrison Company has issued a catalog on its saw-trimmers, bench or cabinet models for smaller shops, slug strippers, plate bevelers and router and type high planers. The catalog is illustrated and includes accessories to equipment. For a copy, please mention PEE No. 201L in your request.

STORAGE EQUIPMENT

A 20 page catalog of newspaper composing room equipment as well as equipment for storing offset copy, negatives and proofs has been issued by Foster Manufacturing Co. Featured are multi-purpose light tables for cold type composition, custom built ad make-up frames and the page galley storage cabinets. All equipment is illustrated and specifications given. For a copy, please mention PEE No. 202L in your request.

1959 G.A. Exposition Planned for New York

At a special meeting of the board of directors of National Graphic Arts Expositions, Inc., held recently in Chicago, reconsideration was given to the holding of the Seventh Educational Graphic Arts Exposition. It was decided to hold the Exposition at the Coliseum in New York, N.Y., Sept. 6-12, 1959, inclusive.

There will be approx. 90,000 sq. ft. for exposition purposes on the first and second floors of the Coliseum.

The Printing Industry of America and Intl. Assoc. of Printing House Craftsmen will hold conventions in New York in 1959, at the time of the Exposition. An additional 12 national trade associations in the Graphic Arts will be contacted to hold their conventions during that period. The New York Club of Printing House Craftsmen will celebrate the fiftieth anniversary of its founding in 1959.

Management of the Seventh Educational Graphic Arts Exposition will be in the hands of A. E. Giegengack, who also managed the fourth, fifth and sixth Expositions. Headquarters will be at 5600 Massachusetts Ave., N.W., Washington 16, D.C.

Printing Machinery

New, used and rebuilt to meet the most critical and exacting requirements.

Current Offerings

MIEHLE Verticals V-45 and V-50

KELLY Models B and No. 2

MIEHLE Model 46 Two Colors with Dexter Stream Feeds, chain deliveries

MIEHLE Model 41 single color unit

GOSS 96 page two color rotary and **COTTRELL** 64 page magazine presses

CLEVELAND current model MS folder complete with Cleveland continuous air wheel feeder

BAUM Model 4332, 25 x 38 with continuous air wheel feeder

SEYBOLD Model 60, 44" cutter with power back gage, side steel tables

MIEHLE hand fed cylinders —No. 3, No. 1, Model 2/0

MILLER TY Two Color units

MILLER SY Single Color units all four track, auto oiling

HAMILTON steel composing room equipment

LINOTYPES Models 8 and 26

INTERTYPES Models C—42 em and Model F mixer

Clear, concise report promptly submitted on request

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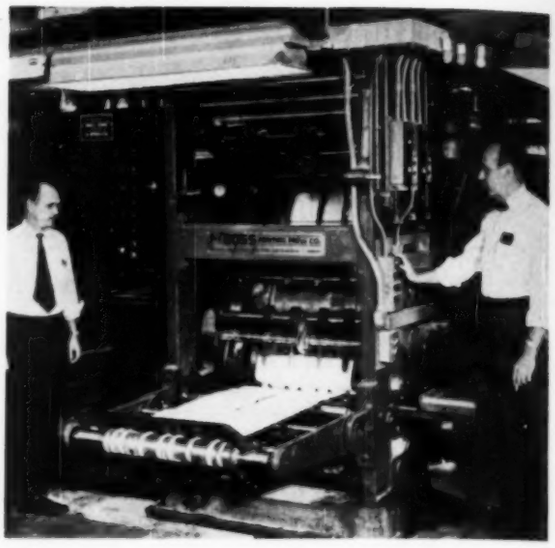
A quarter century of faithful performance to professional printers



R. Clinton Hughes, jr. (left), general superintendent, Hildreth Press, Inc., Bristol, Conn., and Charles Whitney, pressroom superintendent, watch signatures delivered by the new Goss unit type publication press.

Goss Publication Press Is of Unit Type

The first Goss web fed unit type letterpress publication press is now in production at the Hildreth Press, Inc., in Bristol, Conn. The press is designed for magazine production ranging from 25,000 to 200,000 circulation. Hildreth's new Goss press consists of four two color units, two three arm reels, a folder, driers, chilling rollers and tension controls. On it can be printed two colors on 64 pages or four colors on 32 pages, at paper speed of 750 f.p.m.

Design of the Unit-Type Publication Press allows expansion with flexibility to meet changing production needs. The minimum installation would be a single web two unit press, a three arm reel and a folder on which can be produced a 32 page signature in two colors. Units and reels may be added at any time to increase page capacity or to provide more color. Units may be installed on either or both sides of the folder.

On a three unit press can be printed a total of 32 pages, having four colors on 16 pages and two colors on the other 16 pages.

On a four unit press can be produced either a 64 page signature with all pages in two colors, or a 32 page signature with four colors throughout.

By adding a fifth unit the press can be made to print a 64 page product with four colors on 16 pages and two colors on 48.

On a six unit press can be produced either 64 pages with 32 in four colors and 32 in two colors, or a 96 page product all in two colors.

The Goss unit type press is available for web widths from 44 in. to 49 in., producing 8½ in. by 11 in. to 12 in. signatures.

All plating and color setting are done at floor level. Improvements have been incorporated in the inking systems by locating them in the legs of the units. Roller throwoffs and press controls may be operated from a central station. Each unit, consisting of a common impression cylinder and two plate cylinders in 2-to-1 ratio, prints 16 Time size pages in two colors. Plating is four across and four around.

There is one drier for two units. This is accomplished by arranging a double pass in the hot air drier. The residual heat from the first pass helps dry the second pass of the web. The drier is mounted above the units.

Among products obtainable from the folder are: Four 8 page signatures; four 12 page; four 16 page; two 20 page; two 24 page; two 32 page, or one of 40 pages. Also two 20 page and two 12 page; one 40 page and one 24 page; two 20 page and two 8 page; two 16 page and two 12 page; one 32 page and one 24 page; two 16 page and two 8 page; one 32 page and one 16 page; two 12 page and two 8 page, or one 24 page and one 16 page.

Hughes Corporation, prints more than 300 trade publications. W. Jouett Blackburn is president and general manager of the Hildreth Press, Inc. Dwight Monaco, vice president of the Hughes organization is closely associated with Hildreth operations.

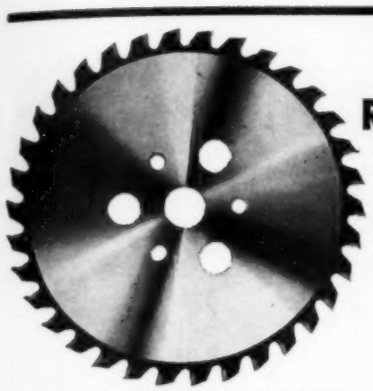
Purchases Rights To Plate Process

Rights to the process for making Electroplastic letterpress printing plates have been purchased by Printing Plates Research, Inc. from Stephen Johnson, jr. of Lafayette, Calif. This plate is available curved or flat.

In the Electroplastic plate are combined a standard copper electrotype shell and a special lightweight plastic backing. For example, 7 in. x 10 in. Electroplastic plate weighs 1 lb. 15 oz. Electroplastic plates, it is claimed, cut shipping costs by 50% or more.

These plates print and wear well, it is reported. Improved levelness cuts makeready time. They are available with nickel and chrome face.

PPR plans to license the process to electrotypers. To date 16 plants have been licensed in the U.S. and Canada. Additional information is available from Printing Plates Research, Inc., P. O. Box 665, Columbus 15, O.



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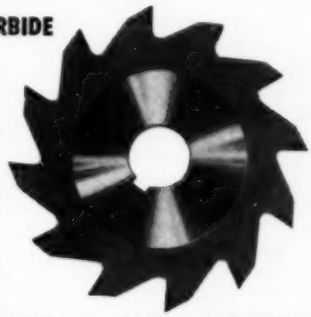

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For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 555 Fifth Avenue, Dept. M, New York 17, N. Y.

Tight-loose Line

(Continued from Page 83)

positioned for 11, 11¼, 11½ or 12 picas.

A pair of wires connects the Micro-Switch to the safety circuit on the Comet at the back side of the swinging front. On the Comet, Mergenthaler provides a long line safety device. In this instance, the Griffith device also provides short line protection. The Comet is supplied with a solenoid, bracket and latch at the left of the keyboard, functioning to latch the assembling elevator in case of an overset matrix line. Griffith's device, operating through the same circuit, solenoid and latch, keeps the assembling elevator locked against short matrix lines, unlatches it by contact of shoe and switch when the line has advanced beyond short measure, then permits Linotype's own long line device to latch the elevator again if the line is overset before the elevate signal is given in the TTS tape.

Included in the Griffith device for older linecasting machines, is a power unit to convert 110 v., a.c. to 18 v., d.c. The unit functions through a solenoid and latch.

When the device is to be applied to older machines, the operating shoe is mounted on the upper side of the assembler slide; also, the Micro-Switch is mounted above the shoe and to the left. The power unit may be mounted in a convenient position on the machine frame. A pair of wires extends from switch to power unit, and another pair extends from the power unit to solenoid and latch.

The device as applied to outstanding machines functions to protect against both short and long matrix lines. If the matrix line is short there is no contact between shoe and switch to open the assembling elevator latch. If the line is too long, the switch button drops off the right side of the shoe at the point of overset.

Those interested in purchasing the safety attachment may write to Charles E. Griffith, Box 145, Richland Pike, Marion, Ohio.

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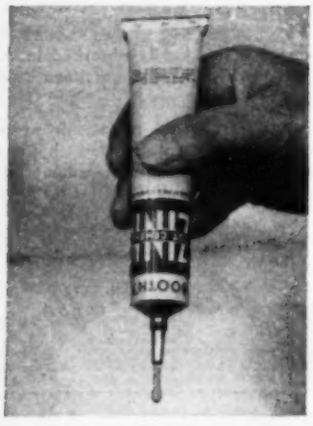

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Typewash Catalyst Agent

Discovery of volatile agents which increase the efficiency of typewashes through depolymerization of the ink vehicle was announced by Dr. John A. Hinckley, president of John A. Hinckley and Associates, Inc., Chicago research chemists. Dr. Hinckley discovered that one of the chief problems in removing dried ink from type is that the cross linked polymers formed during drying are virtually insoluble in organic solvents. Addition of these new volatile catalysts disintegrates the high molecular weight polymers into easily soluble materials, he said.

Graphic Arts Meetings

(With Organization Name and Correspondence Officer)

American Photoengravers Assoc.—1957 Conv., Bellevue-Stratford Hotel, Philadelphia, Oct. 14-16. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf.—1957 Conf., Morrison Hotel, Chicago, June 10-12. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1957 Conv., Mount Washington Hotel, Bretton Woods, N. H., Sept. 23-25. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition—Coliseum, New York, N. Y., Sept. 6-12, 1959. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf.—1957 Conf., Brown Hotel, Louisville, Ky., May 17-18. Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

Graphic Arts Trade Assoc. Executives—Secy.-Treas. Charles Hackett, Memphis Printing Industries, 330 Falls Bldg., Memphis, Tenn.

Gravure Technical Assoc.—1957 Conf., Drake Hotel, Chicago, March 6-8. Exec. Secy. Edward S. St. John, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1958 Conf., Hotel Claypool, Indianapolis, Ind., Jan. 12-14. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf.—1957 Conf., Hotel Faust, Rockford, Ill., Sept. 28-29. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News.*

Intl. Assoc. Electrotypers & Stereotypers—1958 Conf., American Hotel,

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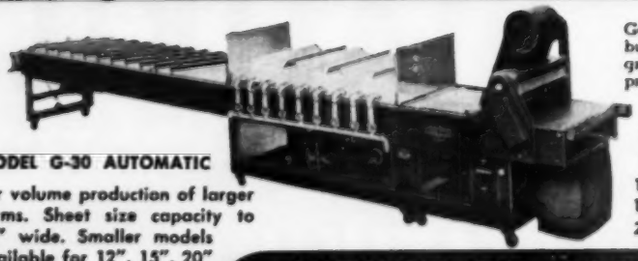

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Get *Greater* returns from your present printing presses. Produce business and social stationery, advertising folders, box wraps, greeting cards, and other decorative pieces with Virkotype raised printing equipment.

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The best cut mounting tape available anywhere at any price. Mounts any type of cut on metal or wood. Releases clean and free. Very thin with a real grip. Prevents bumping on halftones. You'll like it.

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Printing Supervisor, with over 30 years' experience wants to make a change. Will relocate. Married, age 45. Jack Lejcher, 4347 5th Ave., S., Minneapolis 9, Minn.

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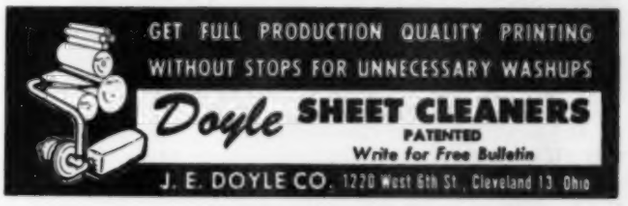
Applied to mold wipers, concentrated No-Mel ends lead build-up on line-casting machine molds, mouthpiece, etc. $2.25. T & R Products, 3915 Wisner St., Saginaw, Mich.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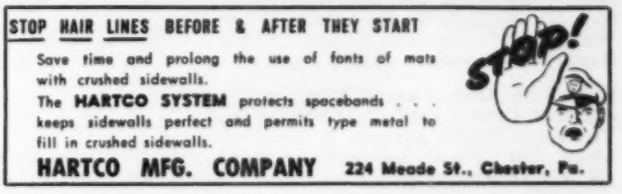
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Save time and prolong the use of fonts of mats with crushed sidewalls.
The HARTCO SYSTEM protects spacebands . . . keeps sidewalls perfect and permits type metal to fill in crushed sidewalls.
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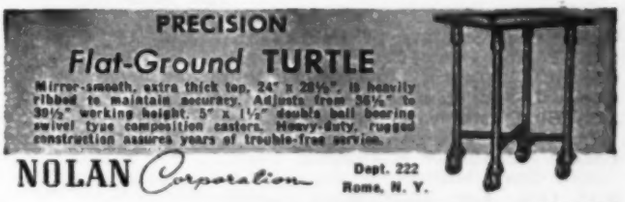
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Flat-Ground TURTLE
Mirror-smooth, extra thick top, 24" x 28½", is heavily ribbed to maintain accuracy. Adjusts from 36½" to 39½" working height. 5" x 1½" double ball bearing swivel type composition casters. Heavy-duty, rugged construction assures years of trouble-free service.
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for work-&-turn litho and letterpress . . . eliminates messy non-offset spray.
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Bal Harbour, Fla., Oct. 21-24. Exec. Secy. Floyd C. Larson, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-7. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc.—1957 Conv., Rochester Institute of Technology, Rochester, N. Y., July 28-Aug. 2. Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N. W., Washington 15, D. C.

Intl. Printers Supply Salesmen's Guild—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-5. Secy. Francis J. Tominey, *New England Printer & Lithographer*, 470 Atlantic Ave., Boston 10, Mass.

Intl. Typographic Composition Assoc. — 1957 Conv., Hotel President, Kansas City, Mo., Sept. 18-21. Exec. Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—1957 Conf., Hotel Hanford, Mason City, Ia., May 4-6. Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf.—1957 Conf., Town House Hotel, Kansas City, Kans., Sept. 7-8. Kansas Secy.-Treas. Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 220 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—1957 Conf., The Greenbrier, White Sulphur Springs, W. Va., Apr. 1-3. Exec. Dir. W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Newspaper Mechanical Conf.—1957 Conf., Sheraton Hotel, Philadelphia, Pa., March 21-23. PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—1957 Conv., Palmer House Hotel, Chicago, May 2-4. Exec. Secy. Eugene Hanson, 4440 Bessie St., St. Louis 15, Mo.

National Assoc. of Photo-Lithographers—1957 Conv., Chase-Park Plaza Hotel, St. Louis, Mo., Sept. 11-14. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1957 Meeting, Waldorf-Astoria Hotel, New York, N. Y., March 25-27. Secy. J. H. Londergan, 220 E. 42nd St., New York.

National Printing Equipment Assoc., Inc.—1957 Conf., Hotel Morrison, Chicago, Oct. 15-16. Secy. James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Section—Staff Rep. Arthur Siedlecki, National Saftey Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc.—1957 Conf., Keene,

Fitting of Bearings Demonstrated—Institute of Newspaper Operations group in R. Hoe & Co., Inc. shops recently was shown how a preloaded roller bearing is hydraulically force fitted onto a tapered impression cylinder journal by means of a hydraulic hand pump. Bearing is removed by the same hydraulic means used in mounting. This technique is also used to mount and remove cylinder drive gears on Hoe presses.

N. H. Secy. Lewis R. Greene, Westerly (R.I.) *Sun*.

New England Newspaper Mechancal Conf.—1957 Conv., Hotel Statler, Boston, Mass., Oct. 19-20. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

New York State Capital District Mechanical Conf.—1957 Conf., Sheraton Ten Eyck Hotel, Albany, N. Y., Jan. 19-20. Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union*.

Northwest Mechanical Conf.—1957 Conf., Hotel St. Paul, St. Paul, Minn., Feb. 23-25. Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf., —1957 Conf., Multnomah Hotel, Portland, Ore., Aug. 23-25. Secy. Donald Newhouse, Prod. Mgr., The Portland (Ore.) *Oregonian*.

Packaging Institute Assoc. — 1957 Forum, Hotel Statler, New York, N. Y., Oct. 28-30. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1957 Annual Conv., Morrison Hotel, Chicago, Ill., Oct. 14-18. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Research and Engineering Council of the Graphic Arts Industry Inc. — 1957 Meeting, Ben Franklin Hotel, Philadelphia, May 15-17. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave., N.W., Washington 15.

Screen Process Printing Assoc., Intl. —1957 Conf., Sheraton-Cadillac Hotel, Detroit Mich., Oct. 26-28. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

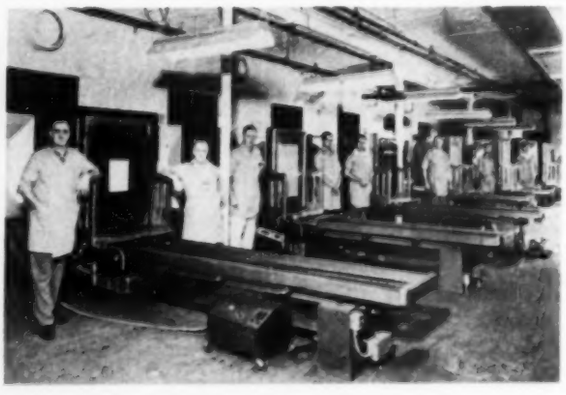
SNPA (Eastern Div.) Mechanical Conf.—1957 Conf., Dinkler Tutwiler Hotel, Birmingham, Ala., Aug. 18-20. Secy. John A. Hogg, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—1957 Conf., Hotel Galvez, Galveston, Tex., March 10-12. Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc.—1957 Conv., Battle House, Mobile, Ala., April 4-6. Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Southwestern Typographic Composition Assoc.—1957 Conf., Roosevelt Hotel, New Orleans, La., Feb. 8-9. Secy. Vernon Stamm, 1305 Prairie Ave., Houston 2, Tex.

Technical Assoc. of the Graphic Arts —1957 Conf., Ben Franklin Hotel, Philadelphia, May 13-15. Secy.-Treas. Phillip E. Tobias, 140 N. 6th St., Philadelphia 6, Pa.



Installs Six Consolidated Cameras—Everett R. Eaton, general manager of the Magazine Photoengraving Div., McCall Corporation, recently completed modernization of his gallery by installing six Consolidated Photo Engravers & Lithographers Equipment Co. cameras in enlarged darkrooms. Three of these are 30 in. and three are 24 in. All are equipped with power driven nuArc lamps, with Luxometers for control exposure techniques. Darkrooms are equipped with temperature controlled sinks. Two additional darkrooms are designed for use in photographic processes not requiring camera operations.

ADVERTISERS' INDEX

FEBRUARY 1957

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WILLIAM L. OSBORN, Eastern Advertising Representative, 2709 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

MELBURN O. SIMMONS, Mid-West Advertising Representative, 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6467.

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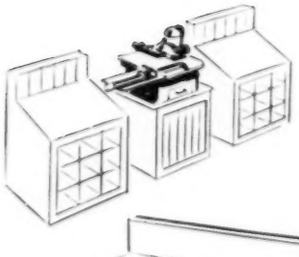

FAMOUS *Glider* SPEED AND ACCURACY WITH **FLEXIBLE PORTABILITY**

Modern production requires the Hammond SlugSaw Glider for the maximum in sawing efficiency. Now you can have the famous Glider speed and accuracy with flexible portability in the Hammond SlugSaw Glider. By placing the SlugSaw Glider in the most advantageous point in the composing room you eliminate unnecessary steps and waiting to use a saw.

Write for complete information.

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THE STAR SELECTRO-MATIC IS A QUADDER PLUS!

We mean a Quadder PLUS because, in addition to Push Button Controls, Memory System and Simplified Hydraulic Actuation, many other time-saving extras are included as standard equipment. To assure you of faster, more efficient quadding and improved machine output, you get...

- ★ New Vise Jaws and Blocks.
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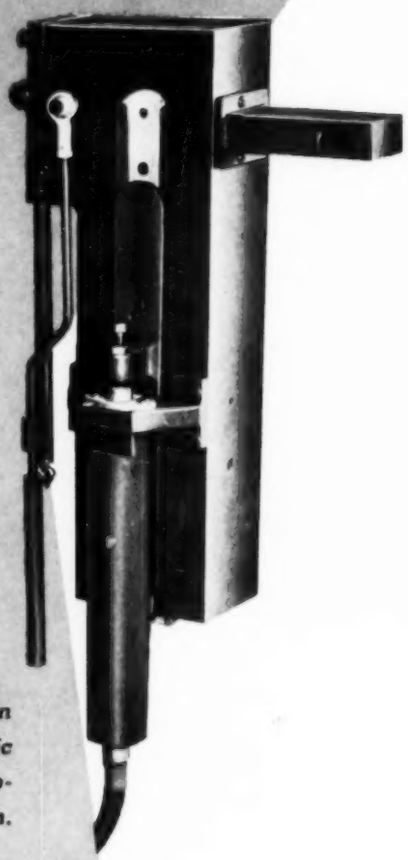
- ★ Hardened, Improved Assembler Slide and Brake.
- ★ Automatic Line Stop Return.
- ★ Adjustable Vise Locking Screws with Replaceable Tips.
- ★ New Vise Locking Studs.
- ★ Adjustable, One-Piece Assembling Elevator Gate with Friction Rail.
- ★ Double Speed Measure Control.*



All of this extra equipment is included in the purchase price of the Selectro-Matic Quadder. Write for 8-page illustrated brochure containing complete information.

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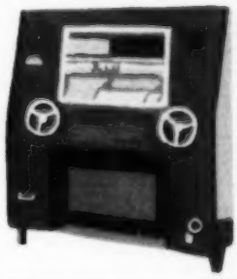
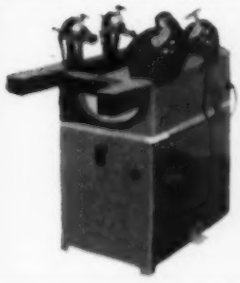
STA-HI CORPORATION

STA-HI MASTER FORMER — Current, entirely automatic model of the famed Sta-Hi Vacuum Dry Mat Former, the world's finest, fastest, most economical equipment for processing mats preparatory to plate casting.

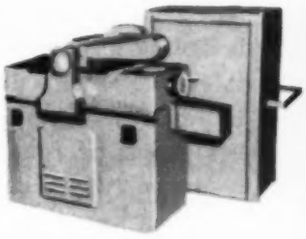
STA-HI MASTER MATCHER — Makes possible close register of color mats for r.o.p. or color press production, before plates are cast, through image-to-image comparison of actual printing areas.



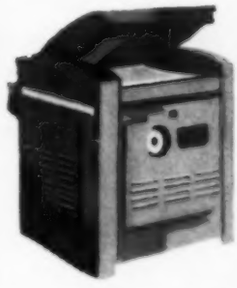
STA-HI MASTER ROUTER — Industry's first totally enclosed curved plate router... with exclusive power driven traverse drive for stripping; Air Jet Chip Remover; Double Page Matching Attachment; Oil Mist Lubrication.



STA-HI MASTER TRIMMER — Can be used separately or in conjunction with Master Matcher to pick up accurate register marks on mats and trim them uniformly to assure precision register in casting equipment.



STA-HI PREMIER ROTARY SHAVER — Pioneer in the field with high speed steel rotary cutter for precision shaving of electrotypes, stereotypes, wood or metal base, plastics... A new and improved model now available.



STA-HI VACUUM FLAT FORMER — For drying and flat-forming color mats to assure uniform processing. May also be used for routine drying of advertising and editorial mats to assure highest quality flat casts.

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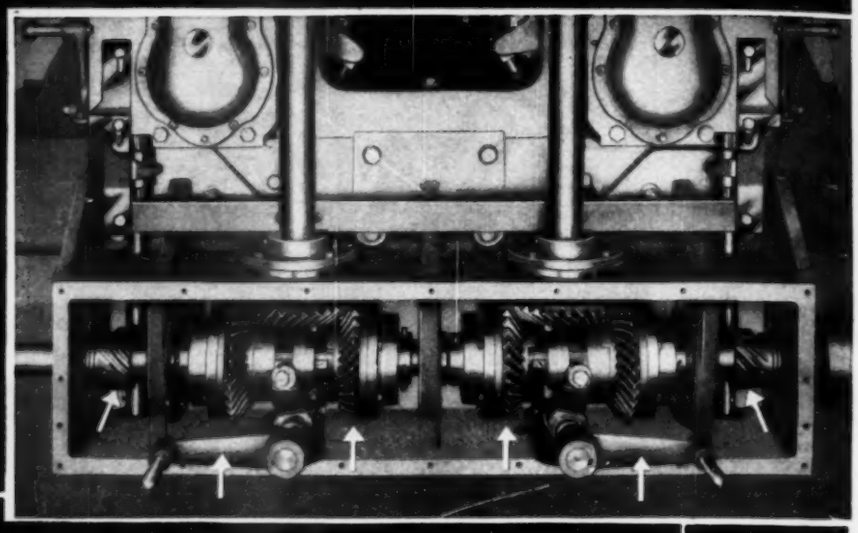

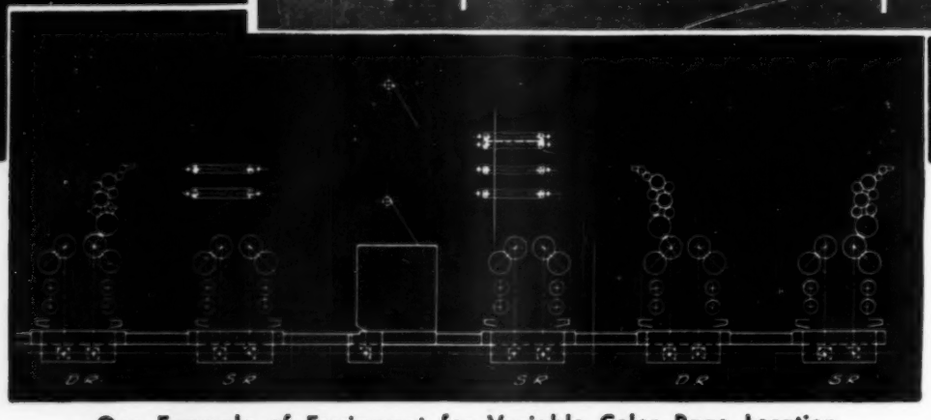

One Example of Equipment for Variable Color Page Location

The above diagram shows a press equipped to enable any two adjacent units to print 4 colors on either side of one web and allowing the turning over of one-half of the web when desired to vary the color page location.

FOR more than 60 years Scott has been designing and building newspaper color printing equipment. The fruits of this continuous development are readily apparent in the many superior mechanical features exclusive with Scott Presses.

The illustration above is a splendid example of the simplicity in design and convenience of operation of Scott Reversible Drives — a simple flip of a lever outside the gear box does the trick!

All gears are always in correct mesh. The flexibility of Scott Press units in combination, to enable wide selection of color page location, derives from long experience in the development of color press equipment.

And so it goes, through a long list of features, with sound mechanical design and sturdy construction, assuring long, satisfactory service and quality printing from every unit of Scott equipment.

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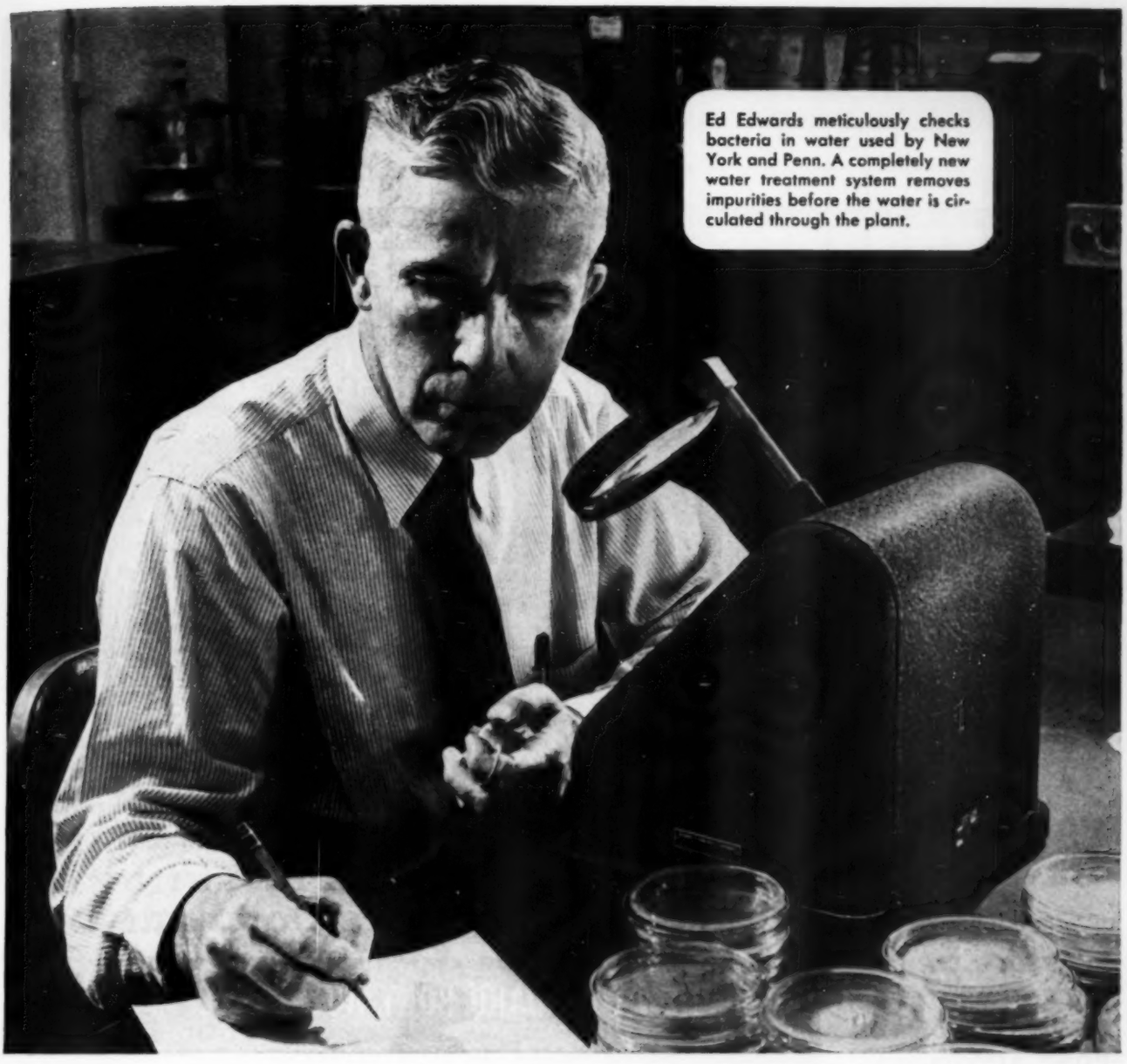

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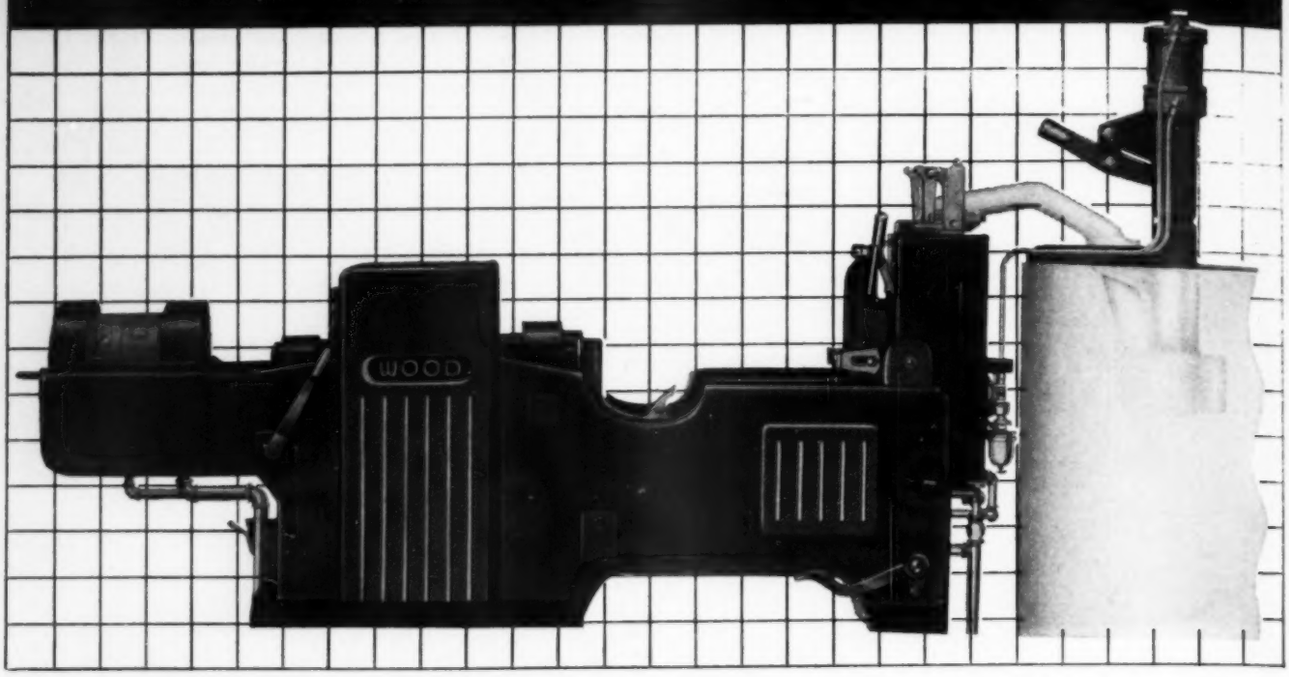

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